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**May 12, 1966**

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**PERCENTAGE LEVELS OF WIND SPEED DIFFERENCES  
COMPUTED BY USING RAWINSONDE WIND PROFILE  
DATA FROM CAPE KENNEDY, FLORIDA**

By Dennis W. Camp and Michael Susko

Aero-Astrodynamics Laboratory

**NASA**

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ABSTRACT

Presented are percentage levels of wind speed differences calculated from AN/GMD-1 upper atmospheric wind profile data observed at Cape Kennedy, Florida. Eight years of rawinsonde wind profile data (5844 profiles) were used: January 1, 1956 through December 31, 1963. The results are based on each kilometer of data using wind velocity measurements obtained for the 1.0 through 25.0 km altitude interval. The results presented may be used to (1) aid in predicting statistical limits of upper level winds, and (2) provide an understanding of the statistical results of wind speed change as a function of time. This type of information is important for space vehicle launch operations.

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and

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ENVIRONMENTAL APPLICATIONS BRANCH  
AEROSPACE ENVIRONMENT DIVISION  
AERO-ASTRODYNAMICS LABORATORY

## TECHNICAL MEMORANDUM X-53461

### PERCENTAGE LEVELS OF WIND SPEED DIFFERENCES COMPUTED BY USING RAWINSONDE WIND PROFILE DATA FROM CAPE KENNEDY, FLORIDA

#### SUMMARY

Presented are percentage levels of wind speed differences calculated from AN/GMD-1 upper atmospheric wind profile data observed at Cape Kennedy, Florida. Eight years of rawinsonde wind profile data (5844 profiles) were used: January 1, 1956 through December 31, 1963. The results are based on each kilometer of data using wind velocity measurements obtained for the 1.0 through 25.0 km altitude interval. The results presented may be used to (1) aid in predicting statistical limits of upper level winds, and (2) provide an understanding of the statistical results of wind speed change as a function of time. This type of information is important for space vehicle launch operations.

#### I. INTRODUCTION

For the launching of vertical rising vehicles, it is desirable to predict what the upper level wind conditions will be at the time of launch. Special wind profiles are obtained during a period of time (50 hours) before and at the time of launch. Constant surveillance of these data is necessary to predict wind conditions that are likely to occur during the ascent of the launch vehicle through the atmosphere. In addition to observing the wind velocities (velocity changes as a function of height and time, maximum wind speed, etc.) as the data are collected, it is common practice to use results of various studies on upper level winds as an aid in improving predictions. This report includes results which are quite useful in predicting (statistically) wind profile conditions for the Cape Kennedy area.

These results should not be used for other geographical locations since definite differences in upper atmospheric wind flow conditions are common from place to place.

The authors of this report wish to express their appreciation to Mr. Paul Harness and Mr. Edgar Seely of the Computation Laboratory, MSFC/NASA, Huntsville, Alabama, for the data computations.



## II. DATA SOURCE AND ANALYSIS

The enclosed tables are percentage levels of wind speed differences obtained from eight years of serially completed rawinsonde wind profile data (5844 wind profiles). These data (wind measurements) were obtained at Patrick Air Force Base (Cape Kennedy), Florida, and include wind velocities for every 1.0 km of altitude, i.e., surface, 1.0, 2.0, ..., and 27.0 km. (The surface, 26.0 and 27.0 km measurements were excluded from this study.) Two wind velocity profiles per day were included beginning with January 1, 1956 and continuing through December 31, 1963. The term "serially complete data" means that missing data were filled in by professional meteorologists using extrapolation, interpolation, or statistical transferring methods so as not to have any wind data missing for any level or runs (References 1 and 2). Below is a brief discussion of the methods used to "serially complete" these data taken from Reference 3:

"The interpolations and extrapolations were made through time and three-dimensional space considerations. 'Off-time and nearby station data were used in conjunction with the originally observed data to perform height-time cross-sectional and horizontal analyses. The height-time cross section was the principal analysis record used. It was prepared for the entire period of record. The original observations were plotted at their respective time intervals for each level of the cross section. ... An isotach analysis of the data not only provided missing grid point values, but aided in finding computational errors in the original data. Original wind values were changed only when they were considered definitely erroneous (determined through examination of original computation forms), or they could not have occurred when consideration was given to the synoptic features at the time."

The data were grouped by months and altitude intervals and then classified according to initial wind speed and direction. The altitude intervals were 5.0 kilometers in depth and the associated intervals used for classifying the wind speed and wind direction were 10 m/sec and 45 degrees (starting at 0 degrees), respectively.

The following example is given to show how the results were obtained. Suppose the 1200Z January 1, 1958, 2 km wind value was 13.5 m/sec at 150 degrees; this value would be entered in the January, 1 to 5 km interval, wind speed class 10.0 to 19.9 (20) m/sec and wind

direction class 135 to 179.9 (180) degrees. Notice that the direction classification is used only to classify the initial wind profile value. All wind data meeting the requirements (January, 1 to 5 km altitude interval, 10 to 20 m/sec, and 135 to 180 degrees) will be placed in the same class as this example. Now suppose the next rawinsonde sounding (0000Z January 2, 1958) for the 2 km level was 19.7 m/sec; the difference between these wind speed values is  $19.7 - 13.5 = +6.2$  m/sec. The positive sign indicates that the wind speed has increased at this level during the 12-hour interval between the two soundings. This wind speed change 6.2 m/sec, in addition to all other changes for this 12-hour interval which meet the initial requirements (month, altitude interval, speed class, and direction class) of this example, are grouped together. A cumulative frequency distribution is then computed for this group. From this distribution, discrete percentage levels (1.0, 5.0, 10.0, 25.0, 50.0, 75.0, 90.0, 95.0, and 99.0 percent) are determined. These results are indicated in the accompanying tables.

The procedure, as illustrated by the above example, is repeated for all the wind profile data. The results presented in the tables may be interpreted as wind speed differences that will not be exceeded during the percentage of the time equal to the probability level of occurrence. For example, the value given for the January, 1 to 5 km layer, 0 to 10 m/sec, 0 to 45 degrees, 24 hours elapsed time, and 99.0 percent level classification is 13.5 m/sec (Table Ia). Thus, it is to be expected that 99.0 percent of the time the wind speed change (increase) will be 13.5 m/sec or less. This value (13.5 m/sec) was obtained from the cumulative frequency distribution as explained in the preceding paragraph.

The number of observations (wind profile values) used to compute the respective increasing and decreasing wind speed values is given at the bottom of each table.

### III. ACCURACY OF DATA

The accuracy of the rawinsonde wind profile data is dependent on altitude, elevation angle, wind speed, etc. An excellent discussion of the accuracy is given in Reference 4, prepared by the Meteorological Data Accuracies Committee, Inter-Range Instrumentation Group (IRIG) for the National Ranges. No attempt has been made to determine the statistical accuracies of the wind speed differences. However, the confidence which may be placed in the values given in the tables decreases outward from the center value (50.0 per cent); i.e., the least amount of confidence should be placed in the extreme percent levels (1.0 and 99.0 percentiles). Furthermore, it is obvious that the number of observations gives a measure of the statistical confidence that may be placed in the results obtained. Thus, very little confidence should be placed in tables having less than about 30 observations.

#### IV. COMMENTS

The percentage levels of wind speed differences presented in this report were obtained from eight years of serially completed rawinsonde wind profile data from Cape Kennedy, Florida. Thus, the data are directly applicable only to the Cape Kennedy area and its immediate surroundings. It is anticipated that the data presented in this report will be a useful aid in the statistical prediction of changes in the wind field as a function of altitude and time during vehicle launch operations.

Any questions concerning the data presented in this report, its acquisition, and/or reduction should be directed to the Aerospace Environment Division (R-AERO-Y), NASA, George C. Marshall Space Flight Center, Huntsville, Alabama, 35812.

TABLE Ia

January, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data .

FOR MONTH OF		JANUARY		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		JANUARY		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS	
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-9.517	-9.275	-9.275	-9.275	-8.550	-4.879	1.0		-9.625	-9.875	-9.750	-9.625	-9.812	-9.750
5.0		-7.583	-6.375	-6.375	-4.775	-4.396	-4.396	5.0		-8.125	-9.375	-8.750	-8.125	-9.062	-8.750
10.0		-5.167	-4.500	-4.500	-4.437	-4.050	-3.792	10.0		-6.250	-8.750	-7.500	-6.250	-8.125	-7.500
25.0		-3.583	-2.083	-1.719	-1.875	-1.979	-1.979	25.0		-4.026	-6.875	-4.531	-3.906	-5.312	-4.375
50.0		-1.167	1.250	2.250	1.591	2.083	2.500	50.0		-1.944	-3.500	-2.187	-1.562	-2.083	-1.250
75.0		2.344	3.839	5.972	4.886	8.750	8.393	75.0		0.313	0.417	0.625	3.125	5.625	3.750
90.0		5.167	6.833	9.389	12.750	13.100	15.500	90.0		3.125	4.167	12.500	7.500	12.500	6.750
95.0		7.583	9.250	9.194	21.375	14.550	21.375	95.0		4.062	6.250	16.250	8.750	16.250	11.250
99.0		9.517	13.550	9.839	24.275	18.550	24.275	99.0		4.812	9.250	19.250	9.750	19.250	14.250
NO. OF		29.		29.		29.		NO. OF		15.		15.		15.	
OBS.		29.		29.		29.		OBS.		15.		15.		15.	

FOR MONTH OF		JANUARY		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		JANUARY		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS	
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-4.907	-9.350	-9.350	-6.050	-9.512	-9.512	1.0		-8.850	-7.700	-7.700	-7.700	-9.233	-8.850
5.0		-4.536	-6.750	-6.750	-4.661	-7.562	-7.562	5.0		-4.917	-4.618	-4.675	-4.690	-6.167	-4.885
10.0		-4.071	-4.654	-4.700	-3.964	-5.125	-5.125	10.0		-4.278	-3.941	-4.100	-4.143	-4.500	-4.000
25.0		-2.679	-2.404	-2.750	-1.875	-2.604	-1.406	25.0		-2.361	-1.312	-2.375	-2.500	-2.344	-1.346
50.0		-0.357	1.458	3.750	2.500	1.750	5.227	50.0		0.882	1.389	1.000	0.357	1.429	1.818
75.0		3.173	5.761	5.761	7.625	7.708	9.659	75.0		4.285	4.583	7.188	4.464	6.250	4.432
90.0		6.833	9.438	9.438	11.375	13.875	13.643	90.0		7.444	12.333	12.400	9.500	12.400	15.400
95.0		10.250	12.625	15.250	13.613	17.825	15.125	95.0		8.722	16.750	14.700	14.250	14.700	17.700
99.0		18.050	26.050	26.050	18.050	26.050	19.025	99.0		9.744	22.700	18.850	18.850	22.700	19.540
NO. OF		39.		39.		39.		NO. OF		46.		46.		46.	
OBS.		39.		39.		39.		OBS.		46.		46.		46.	

TABLE Ia (cont'd)

FOR MONTH OF		JANUARY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)	
ALTITUDE 1 TO 5 (KM)		JANUARY		INITIAL WIND SPEED 10 TO 135 (DEG)		INITIAL WIND SPEED 10 TO 135 (DEG)		INITIAL WIND SPEED 10 TO 135 (DEG)		INITIAL WIND SPEED 10 TO 135 (DEG)		INITIAL WIND SPEED 10 TO 135 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72	
1.0	-9.837	-14.350	-9.783	-14.675	-14.350	-14.675	-14.675	-9.700	-14.550	-9.700	-14.100	-14.100	-14.100
5.0	-9.187	-11.750	-8.917	-13.375	-11.750	-13.375	-13.375	-6.500	-12.750	-8.500	-10.500	-10.500	-10.500
10.0	-8.375	-9.625	-7.833	-11.750	-9.625	-11.750	-11.750	-7.000	-10.500	-7.000	-9.000	-9.000	-9.000
25.0	-5.937	-7.187	-4.821	-7.917	-7.187	-9.107	-9.107	-3.750	-4.500	-4.062	-5.625	-5.625	-5.625
50.0	-2.917	-3.500	-2.500	-2.500	-3.125	-6.786	-6.786	-0.	-0.	-1.250	-1.667	-1.000	-1.000
75.0	-0.208	-0.250	-0.179	2.917	1.875	-3.125	-3.125	4.500	7.500	6.250	6.250	4.375	4.375
90.0	4.250	8.500	6.750	6.750	6.750	1.750	1.750	8.667	12.000	8.500	13.000	13.000	13.000
95.0	6.750	11.750	8.375	8.375	8.375	3.375	3.375	10.500	13.500	9.250	20.500	15.500	15.500
99.0	9.350	14.350	9.675	9.675	9.675	4.675	4.675	14.100	14.700	9.850	24.100	19.100	19.100
NO. OF	13.	13.	13.	13.	13.	13.	13.	18.	18.	18.	18.	18.	18.
OBS.	13.	13.	13.	13.	13.	13.	13.	18.	18.	18.	18.	18.	18.

FOR MONTH OF		JANUARY		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 0 TO 10 (M/SEC)	
ALTITUDE 1 TO 5 (KM)		JANUARY		INITIAL WIND SPEED 180 TO 225 (DEG)		INITIAL WIND SPEED 180 TO 225 (DEG)		INITIAL WIND SPEED 180 TO 225 (DEG)		INITIAL WIND SPEED 180 TO 225 (DEG)		INITIAL WIND SPEED 180 TO 225 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72	
1.0	-6.900	-6.900	-6.900	-9.225	-6.450	-8.450	-8.450	-8.200	-9.100	-8.920	-9.100	-8.200	-8.200
5.0	-4.192	-4.045	-4.417	-6.125	-4.633	-4.607	-4.607	-4.538	-5.500	-4.929	-5.500	-4.538	-4.538
10.0	-3.000	-2.636	-3.556	-3.625	-3.600	-3.500	-3.500	-3.500	-3.957	-3.964	-4.040	-3.500	-3.500
25.0	0.227	0.761	-0.972	0.729	-0.500	-0.179	-0.179	-0.385	-0.435	-1.071	-0.800	-0.385	-0.385
50.0	2.576	4.130	4.000	3.958	4.667	4.687	4.687	3.289	4.310	4.565	3.286	3.378	3.378
75.0	4.924	8.026	8.906	11.346	9.028	9.531	9.531	7.800	8.594	9.032	8.409	8.125	8.125
90.0	8.385	12.250	12.900	14.923	13.625	14.875	14.875	12.364	14.500	14.250	16.375	14.500	14.500
95.0	9.577	16.125	14.450	18.625	16.125	17.900	17.900	14.818	18.833	20.500	19.750	21.333	21.333
99.0	16.900	19.225	18.450	26.900	19.225	21.900	21.900	22.300	29.600	24.100	23.920	24.933	24.933
NO. OF	62.	62.	62.	62.	62.	62.	62.	108.	108.	108.	108.	108.	108.
OBS.	62.	62.	62.	62.	62.	62.	62.	108.	108.	108.	108.	108.	108.

TABLE Ia (Cont'd)

FOR MONTH OF			JANUARY			FOR MONTH OF			JANUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 225 TO 270 (DEG)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.923	-13.830	-13.830	-14.350	-14.923	-16.050	1.0	-7.910	-8.839	-9.507	-7.387	-6.507	-6.507	-6.507	-6.507	-6.507	-6.507
5.0	-7.795	-9.764	-9.696	-11.750	-12.795	-13.575	5.0	-4.567	-4.885	-4.697	-4.488	-4.692	-4.692	-4.692	-4.692	-4.692	-4.692
10.0	-5.136	-6.139	-7.607	-9.534	-10.136	-10.650	10.0	-3.738	-4.056	-3.781	-3.659	-3.759	-3.759	-3.759	-3.759	-3.759	-3.759
25.0	-2.386	-3.580	-3.686	-6.509	-7.463	-7.292	25.0	-1.250	-1.567	-1.031	-1.171	-0.960	-0.960	-0.960	-0.960	-0.960	-0.960
50.0	1.776	2.700	0.125	-1.965	-3.311	-3.013	50.0	2.074	2.708	3.266	3.233	3.843	3.843	3.843	3.843	3.843	3.843
75.0	6.250	9.034	7.868	4.375	1.319	1.513	75.0	5.067	7.250	7.901	9.113	9.056	9.056	9.056	9.056	9.056	9.056
90.0	12.357	15.214	14.682	5.781	8.583	6.955	90.0	8.733	10.423	12.676	14.033	15.344	15.344	15.344	15.344	15.344	15.344
95.0	16.792	19.393	17.575	14.292	12.964	9.614	95.0	9.948	14.442	17.125	18.775	18.609	18.609	18.609	18.609	18.609	18.609
99.0	22.075	23.830	19.915	19.788	29.150	17.075	99.0	17.388	23.638	27.275	27.275	24.888	24.888	24.888	24.888	24.888	24.888
NO. OF							NO. OF										
OBS.	117.	117.	117.	117.	117.	117.	OBS.	209.	209.	209.	209.	209.	209.	209.	209.	209.	209.

FOR MONTH OF			JANUARY			FOR MONTH OF			JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 225 TO 270 (DEG)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-23.750	-23.750	-23.750	-24.375	-24.583	-24.867	1.0	-11.130	-13.975	-14.522	-14.882	-16.130	-16.130	-16.130	-16.130	-16.130	-16.130
5.0	-13.750	-19.375	-19.750	-21.875	-22.917	-23.437	5.0	-8.206	-9.685	-11.942	-12.791	-12.950	-12.950	-12.950	-12.950	-12.950	-12.950
10.0	-9.583	-16.250	-16.500	-19.167	-20.833	-21.875	10.0	-5.787	-8.283	-9.465	-10.176	-10.186	-10.186	-10.186	-10.186	-10.186	-10.186
25.0	-6.458	-9.687	-14.687	-13.750	-14.750	-16.250	25.0	-3.352	-4.441	-5.434	-5.765	-5.946	-5.946	-5.946	-5.946	-5.946	-5.946
50.0	2.500	-0.833	-4.375	-7.917	-8.750	-8.125	50.0	-0.271	-0.197	-0.690	-1.032	-1.098	-1.098	-1.098	-1.098	-1.098	-1.098
75.0	9.107	6.750	4.583	3.750	0.938	2.917	75.0	4.849	5.840	6.149	6.513	6.162	6.162	6.162	6.162	6.162	6.162
90.0	14.167	17.500	11.250	9.375	7.500	6.125	90.0	8.735	11.404	12.239	12.473	12.234	12.234	12.234	12.234	12.234	12.234
95.0	16.875	21.875	14.375	11.875	11.675	9.688	95.0	10.928	15.271	16.956	15.381	15.434	15.434	15.434	15.434	15.434	15.434
99.0	19.375	24.375	23.750	14.375	14.375	13.750	99.0	16.775	25.217	25.850	24.456	19.508	19.508	19.508	19.508	19.508	19.508
NO. OF							NO. OF										
OBS.	25.	25.	25.	25.	25.	25.	OBS.	387.	387.	387.	387.	387.	387.	387.	387.	387.	387.

TABLE Ia (cont'd)

FOR MONTH OF JANUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)												
ALTITUDE 1 TO 5 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)										
PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS										
LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72						
1.0	-23.425	-23.425	-26.850	-28.950	-28.425	-29.370	1.0	-8.650	-8.600	-8.800	-8.800	-8.800	-8.920	-8.437						
5.0	-18.850	-19.361	-21.417	-24.906	-24.281	-26.850	5.0	-4.841	-4.827	-4.795	-4.795	-4.809	-4.900	-4.661						
10.0	-15.700	-17.611	-19.042	-22.937	-22.312	-24.350	10.0	-4.227	-3.788	-3.568	-3.568	-3.660	-3.550	-3.696						
25.0	-9.013	-11.042	-15.104	-17.361	-17.366	-19.625	25.0	-2.386	-0.673	0.070	0.070	-0.213	0.274	-0.804						
50.0	-4.844	-5.735	-8.382	-8.971	-10.962	-10.357	50.0	0.698	2.831	3.873	3.873	4.333	3.973	4.167						
75.0	0.139	-1.989	-3.229	-4.062	-3.672	-3.125	75.0	3.837	6.731	8.115	8.115	8.651	9.063	8.947						
90.0	5.675	1.167	1.700	-0.125	-0.719	7.833	90.0	7.067	9.646	12.611	12.611	13.667	14.500	13.517						
95.0	9.613	6.417	4.850	4.750	1.417	11.850	95.0	8.867	13.833	16.375	16.375	17.167	19.100	16.375						
99.0	13.950	16.850	11.850	13.425	6.850	14.370	99.0	12.300	21.400	23.550	23.550	24.600	24.886	24.733						
NO. OF							NO. OF							NO. OF						
OBS.							OBS.							OBS.						

TABLE Ia (cont'd)

FOR MONTH OF JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JANUARY			INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-11.233	-14.515	-14.600	-14.650	-14.707	-14.776	1.0	-23.150	-24.383	-26.150	-26.150	-29.537
5.0	-9.186	-11.038	-12.421	-12.139	-12.605	-12.118	5.0	-15.750	-21.917	-23.937	-24.292	-27.687
10.0	-8.078	-9.252	-9.617	-9.617	-9.988	-9.506	10.0	-13.937	-19.300	-21.625	-22.750	-25.375
25.0	-4.863	-6.304	-6.670	-6.011	-5.602	-5.422	25.0	-10.469	-14.219	-16.964	-18.125	-21.827
50.0	-1.758	-2.357	-2.328	-1.270	-0.726	-0.470	50.0	-5.278	-8.611	-8.056	-10.417	-16.786
75.0	2.059	2.468	4.000	5.556	6.210	6.908	75.0	-1.023	-2.250	-2.656	-3.750	-3.250
90.0	4.908	6.310	9.982	13.000	13.152	12.667	90.0	7.300	3.300	5.750	5.500	12.300
95.0	8.778	12.000	13.662	17.765	16.059	16.692	95.0	9.150	5.750	10.750	8.583	14.150
99.0	16.233	24.133	24.350	26.200	27.480	27.900	99.0	13.150	13.150	16.150	16.150	23.150
NO. OF OBS.	452.	452.	452.	452.	452.	452.	NO. OF OBS.	37.	37.	37.	37.	37.

FOR MONTH OF JANUARY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JANUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-16.675	-21.675	-21.675	-19.873	-21.675	-23.337	1.0	-9.080	-9.540	-9.233	-9.233	-9.080
5.0	-13.708	-16.679	-17.686	-17.827	-18.632	-18.981	5.0	-5.400	-7.700	-6.167	-6.167	-5.400
10.0	-11.861	-14.259	-14.962	-15.269	-16.676	-16.423	10.0	-4.475	-5.400	-4.467	-4.333	-4.160
25.0	-7.792	-10.819	-12.469	-12.467	-13.021	-12.538	25.0	-2.750	-2.833	-2.167	-1.458	-1.400
50.0	-3.350	-6.833	-7.589	-7.803	-7.788	-7.643	50.0	0.143	0.938	2.000	2.500	3.810
75.0	-0.025	-1.650	-1.652	-1.927	-0.066	1.172	75.0	3.429	4.531	7.000	6.944	7.800
90.0	5.350	3.250	4.458	4.458	5.350	7.567	90.0	6.167	8.375	11.800	12.333	12.333
95.0	8.675	5.438	9.458	9.458	8.675	9.783	95.0	8.083	9.813	16.750	16.750	17.333
99.0	14.450	14.175	19.450	19.175	14.450	19.175	99.0	9.817	15.400	25.400	22.700	22.700
NO. OF OBS.	133.	133.	133.	133.	133.	133.	NO. OF OBS.	92.	92.	92.	92.	92.



TABLE Ia (cont'd)

FOR MONTH OF			JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			5 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-13.175	-16.350	-16.350	-14.392	-16.350	1.0	-19.700	-29.400	-24.400	-29.400	-29.400
5.0	-9.484	-12.350	-11.687	-11.958	-9.870	5.0	-18.500	-27.000	-22.000	-27.000	-28.500
10.0	-8.344	-9.618	-9.281	-9.639	-9.140	10.0	-17.000	-19.800	-19.800	-24.667	-27.000
25.0	-4.964	-6.397	-5.859	-6.597	-6.103	25.0	-10.000	-18.000	-18.000	-21.667	-22.500
50.0	-2.357	-2.500	-2.232	-2.768	-2.167	50.0	-5.000	-15.000	-15.000	-16.667	-17.500
75.0	0.625	1.027	2.212	1.719	4.554	75.0	-0.	-5.000	-10.000	-7.500	-10.000
90.0	4.536	6.688	7.313	5.071	12.125	90.0	9.000	-0.500	7.000	7.000	7.000
95.0	7.350	8.969	9.594	18.917	19.188	95.0	12.000	12.000	8.500	8.500	8.500
99.0	11.350	16.350	21.350	23.783	31.350	99.0	14.400	14.400	9.700	9.700	9.700
NO. OF						NO. OF					
OBS.	73.	73.	73.	73.	73.	OBS.	12.	12.	12.	12.	12.

FOR MONTH OF			JANUARY			INITIAL WIND SPEED 20 TO 30 (M/SEC)					
ALTITUDE 1 TO 5 (KM)			5 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.250	-19.250	-19.250	-19.250	-19.750	1.0	-19.250	-19.250	-19.250	-19.250	-24.250
5.0	-16.250	-16.250	-16.250	-16.250	-18.750	5.0	-16.250	-16.250	-16.750	-21.250	-21.250
10.0	-12.500	-13.750	-14.375	-14.583	-17.500	10.0	-12.500	-13.750	-14.375	-17.500	-18.750
25.0	-8.906	-9.531	-11.562	-12.708	-13.750	25.0	-8.906	-9.531	-11.562	-13.750	-14.250
50.0	-6.562	-7.187	-7.500	-9.375	-8.125	50.0	-6.562	-7.187	-7.500	-9.375	-10.500
75.0	-1.875	-4.375	-2.917	-4.375	-1.875	75.0	-1.875	-4.375	-2.917	-4.375	5.417
90.0	7.500	2.500	2.500	6.250	7.500	90.0	7.500	2.500	2.500	6.250	9.167
95.0	11.250	6.250	11.250	8.125	11.250	95.0	11.250	6.250	11.250	8.125	11.250
99.0	14.250	9.250	14.250	9.625	14.250	99.0	14.250	9.250	14.250	9.625	14.250
NO. OF						NO. OF					
OBS.	15.	15.	15.	15.	15.	OBS.	15.	15.	15.	15.	15.

TABLE 1b

January, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		JANUARY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL DIRECTION 180 TO 225 (DEG)		FOR MONTH OF		JANUARY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL DIRECTION 225 TO 270 (DEG)	
ALTITUDE 6 TO 10 (KM)		JANUARY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL DIRECTION 180 TO 225 (DEG)		ALTITUDE 6 TO 10 (KM)		JANUARY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL DIRECTION 225 TO 270 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72	
1.0	-9.300	-4.767	-4.625	-4.825	-9.300	-9.300	-9.300	1.0	-8.836	-9.758	-9.457	-10.925	-10.925	-10.925	-12.962
5.0	-6.500	-3.833	-4.125	-4.125	-6.500	-6.500	-6.500	5.0	-4.894	-7.250	-7.283	-7.804	-7.804	-8.719	-8.847
10.0	-4.333	-2.667	-3.250	-3.250	-4.500	-4.500	-4.500	10.0	-4.139	-4.760	-4.662	-4.967	-4.967	-7.021	-6.583
25.0	-0.833	0.625	-0.625	-0.625	-1.875	-2.500	-2.500	25.0	-1.875	-2.214	-2.261	-2.310	-2.310	-3.007	-2.856
50.0	3.000	5.000	10.000	5.000	2.500	1.667	1.667	50.0	1.934	2.438	3.900	5.357	5.357	5.761	4.063
75.0	7.500	12.500	12.917	12.500	15.625	12.500	12.500	75.0	6.213	8.750	12.679	14.620	14.620	13.861	13.861
90.0	13.000	23.000	14.667	16.000	18.250	19.000	19.000	90.0	9.809	18.357	21.350	25.389	25.389	23.731	23.850
95.0	31.500	36.500	26.500	26.500	19.125	26.500	26.500	95.0	17.125	26.083	26.063	29.917	29.917	29.850	31.417
99.0	34.300	39.300	29.300	29.300	19.825	29.300	29.300	99.0	35.925	35.925	34.213	37.983	37.983	37.293	38.842
NO. OF	14.	14.	14.	14.	14.	14.	14.	NO. OF	163.	163.	163.	163.	163.	163.	163.
OBS.	14.	14.	14.	14.	14.	14.	14.	OBS.	163.	163.	163.	163.	163.	163.	163.

FOR MONTH OF		JANUARY		INITIAL WIND SPEED 20 TO 30 (M/SEC)		INITIAL DIRECTION 180 TO 225 (DEG)		FOR MONTH OF		JANUARY		INITIAL WIND SPEED 20 TO 30 (M/SEC)		INITIAL DIRECTION 225 TO 270 (DEG)	
ALTITUDE 6 TO 10 (KM)		JANUARY		INITIAL WIND SPEED 20 TO 30 (M/SEC)		INITIAL DIRECTION 180 TO 225 (DEG)		ALTITUDE 6 TO 10 (KM)		JANUARY		INITIAL WIND SPEED 20 TO 30 (M/SEC)		INITIAL DIRECTION 225 TO 270 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		LEVELS 12 24 36 48 60 72	
1.0	-19.150	-14.575	-4.575	-19.150	-14.150	-19.150	-19.150	1.0	-12.767	-17.075	-17.614	-19.391	-18.144	-18.329	-18.329
5.0	-15.750	-12.875	-2.875	-15.750	-10.750	-15.750	-15.750	5.0	-8.329	-9.700	-12.447	-13.912	-13.717	-13.757	-13.757
10.0	-13.250	-10.750	-0.750	-13.250	-6.500	-11.500	-11.500	10.0	-5.943	-7.844	-9.075	-9.630	-10.933	-11.371	-11.371
25.0	-4.750	1.250	7.083	-1.875	0.625	0.417	0.417	25.0	-2.825	-3.488	-3.785	-4.353	-4.526	-4.955	-4.955
50.0	-0.500	9.375	12.500	9.167	7.500	6.250	6.250	50.0	1.552	2.015	2.417	3.000	3.229	2.745	2.745
75.0	9.375	13.125	16.458	13.125	12.188	9.792	9.792	75.0	6.810	8.398	10.188	9.881	10.793	9.802	9.802
90.0	18.250	26.500	18.583	16.500	16.500	26.500	26.500	90.0	10.250	15.167	17.522	17.520	18.391	18.826	18.826
95.0	20.750	30.750	19.292	20.750	20.750	30.750	30.750	95.0	17.208	19.806	22.409	22.688	23.875	24.036	24.036
99.0	24.150	34.150	19.858	24.150	24.150	34.150	34.150	99.0	27.767	28.325	33.050	32.660	31.650	29.845	29.845
NO. OF	17.	17.	17.	17.	17.	17.	17.	NO. OF	334.	334.	334.	334.	334.	334.	334.
OBS.	17.	17.	17.	17.	17.	17.	17.	OBS.	334.	334.	334.	334.	334.	334.	334.

TABLE Ib (cont'd)

FOR MONTH OF		JANUARY		INITIAL WIND SPEED		30 TO 40 (M/SEC)		JANUARY		INITIAL WIND SPEED		50 TO 60 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		225 TO 270 (DEG)		6 TO 10 (KM)		INITIAL DIRECTION		225 TO 270 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	12	24	36	48	60	72
1.0		-15.975	-20.975	-23.983	-23.390	-24.641	-24.710	-27.175	-34.193	-34.919	-38.870	-39.294	-39.529
5.0		-9.779	-14.150	-16.639	-17.896	-19.810	-20.690	-20.437	-30.964	-32.094	-34.536	-36.469	-37.646
10.0		-8.271	-10.633	-13.146	-14.321	-16.172	-17.156	-16.214	-26.929	-28.562	-30.500	-32.250	-35.292
25.0		-4.352	-5.668	-7.794	-9.028	-10.129	-11.250	-10.515	-15.875	-20.312	-24.886	-25.250	-24.583
50.0		-0.444	-0.937	-1.915	-3.103	-3.636	-4.000	-2.935	-6.974	-11.979	-15.833	-16.477	-15.735
75.0		5.404	6.385	5.658	6.184	5.236	5.160	4.338	1.583	-1.806	-2.604	-5.125	-6.250
90.0		10.160	12.042	12.379	13.808	12.667	12.967	9.900	9.188	8.700	10.700	7.125	7.125
95.0		14.380	17.654	17.950	19.139	17.912	20.950	14.458	14.350	15.583	18.375	16.688	18.375
99.0		22.780	27.225	28.780	29.238	32.967	32.225	18.870	29.350	32.175	32.175	24.675	24.838
NO. OF													
OBS.		422.	422.	422.	422.	422.	422.	113.	113.	113.	113.	113.	113.

FOR MONTH OF		JANUARY		INITIAL WIND SPEED		40 TO 50 (M/SEC)		JANUARY		INITIAL WIND SPEED		60 TO 70 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		225 TO 270 (DEG)		6 TO 10 (KM)		INITIAL DIRECTION		225 TO 270 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	12	24	36	48	60	72
1.0		-32.300	-27.380	-30.633	-31.725	-32.975	-30.633	-39.100	-39.550	-39.640	-39.700	-39.743	-39.743
5.0		-17.634	-22.107	-25.409	-26.967	-27.300	-26.393	-35.500	-37.750	-38.200	-38.500	-38.714	-38.714
10.0		-13.893	-17.000	-19.522	-22.231	-23.176	-22.909	-28.500	-35.500	-36.400	-37.000	-37.429	-37.429
25.0		-8.465	-9.952	-12.566	-13.314	-14.550	-16.687	-18.000	-25.000	-30.000	-32.000	-31.667	-33.000
50.0		-2.759	-4.028	-5.490	-6.864	-7.436	-8.953	-8.333	-13.750	-14.000	-17.500	-17.500	-23.000
75.0		3.350	1.389	2.417	3.521	1.048	-0.368	1.667	-1.667	-2.500	-5.000	5.000	-7.500
90.0		9.750	10.286	10.308	5.944	9.625	9.944	11.000	9.000	10.667	5.000	14.000	22.400
95.0		14.250	14.964	15.500	17.071	21.583	16.900	15.500	16.000	13.667	15.500	18.000	24.200
99.0		20.950	27.300	25.950	31.725	35.633	31.725	19.100	23.200	23.200	19.100	28.200	33.200
NO. OF													
OBS.		262.	262.	262.	262.	262.	262.	36.	36.	36.	36.	36.	36.

TABLE Ib (cont'd)

FOR MONTH OF JANUARY							INITIAL WIND SPEED 0 TO 10 (M/SEC)							FOR MONTH OF JANUARY							INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)							ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
PERCENT							PERCENT							PERCENT							PERCENT						
LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72						
1.0 -4.060 -4.300 -4.767 -4.650 -4.825 -4.825							1.0 -14.057 -16.360 -17.725 -18.350 -17.725 -18.350							1.0 -19.079 -23.092 -23.364 -23.092 -23.710 -23.710							1.0 -14.057 -16.360 -17.725 -18.350 -17.725 -18.350						
5.0 -4.300 -1.500 -3.833 -3.250 -4.125 -4.125							5.0 -9.724 -12.556 -12.960 -13.357 -12.960 -13.357							5.0 -13.850 -18.297 -18.887 -18.183 -18.566 -18.566							5.0 -9.724 -12.556 -12.960 -13.357 -12.960 -13.357						
10.0 -3.600 0.250 -2.667 -1.500 -3.250 -3.250							10.0 -8.155 -9.607 -9.730 -10.107 -9.573 -10.848							10.0 -10.033 -14.812 -16.025 -14.683 -15.553 -15.553							10.0 -8.155 -9.607 -9.730 -10.107 -9.573 -10.848						
25.0 -1.500 1.563 0.417 1.250 -0.625 -0.625							25.0 -4.217 -4.867 -5.397 -5.574 -5.933 -5.463							25.0 -6.277 -8.918 -9.639 -9.256 -9.969 -9.390							25.0 -4.217 -4.867 -5.397 -5.574 -5.933 -5.463						
50.0 1.667 3.750 3.333 4.167 3.000 3.750							50.0 -0.261 -0.841 -0.474 0.476 1.077 1.531							50.0 -1.750 -3.245 -3.351 -2.806 -2.756 -2.365							50.0 -0.261 -0.841 -0.474 0.476 1.077 1.531						
75.0 4.583 7.500 6.875 9.167 8.750 8.125							75.0 4.167 5.755 6.571 8.617 9.762 11.571							75.0 4.549 4.612 5.815 4.958 7.560 6.350							75.0 4.167 5.755 6.571 8.617 9.762 11.571						
90.0 9.000 11.500 9.500 14.000 18.000 23.000							90.0 9.273 12.400 15.500 19.000 18.042 20.929							90.0 10.700 12.536 14.719 15.500 16.050 16.050							90.0 9.273 12.400 15.500 19.000 18.042 20.929						
95.0 11.500 13.250 11.500 31.500 36.500 36.500							95.0 12.950 18.545 22.714 24.625 25.364 28.400							95.0 14.517 17.528 23.188 23.768 22.536 21.972							95.0 12.950 18.545 22.714 24.625 25.364 28.400						
99.0 14.300 14.650 14.300 34.300 39.300 39.300							99.0 18.975 30.450 32.800 33.400 33.114 36.380							99.0 19.283 29.638 34.638 34.517 34.275 31.183							99.0 18.975 30.450 32.800 33.400 33.114 36.380						
NO. OF							NO. OF							NO. OF							NO. OF						
OBS. 14. 14. 14. 14. 14. 14.							OBS. 364. 364. 364. 364. 364. 364.							OBS. 229. 229. 229. 229. 229. 229.							OBS. 364. 364. 364. 364. 364. 364.						

FOR MONTH OF JANUARY							INITIAL WIND SPEED 10 TO 20 (M/SEC)							FOR MONTH OF JANUARY							INITIAL WIND SPEED 30 TO 40 (M/SEC)						
ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)							ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
PERCENT							PERCENT							PERCENT							PERCENT						
LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72						
1.0 -9.275 -9.987 -9.988 -9.992 -13.970 -13.263							1.0 -19.079 -23.092 -23.364 -23.092 -23.710 -23.710							1.0 -19.079 -23.092 -23.364 -23.092 -23.710 -23.710							1.0 -14.057 -16.360 -17.725 -18.350 -17.725 -18.350						
5.0 -6.375 -6.604 -6.865 -7.736 -8.779 -7.804							5.0 -13.850 -18.297 -18.887 -18.183 -18.566 -18.566							5.0 -13.850 -18.297 -18.887 -18.183 -18.566 -18.566							5.0 -9.724 -12.556 -12.960 -13.357 -12.960 -13.357						
10.0 -4.543 -4.315 -4.369 -4.962 -5.794 -4.681							10.0 -10.033 -14.812 -16.025 -14.683 -15.553 -15.553							10.0 -10.033 -14.812 -16.025 -14.683 -15.553 -15.553							10.0 -8.155 -9.607 -9.730 -10.107 -9.573 -10.848						
25.0 -2.337 -1.005 -0.744 -1.038 -1.250 -0.451							25.0 -6.277 -8.918 -9.639 -9.256 -9.969 -9.390							25.0 -6.277 -8.918 -9.639 -9.256 -9.969 -9.390							25.0 -4.217 -4.867 -5.397 -5.574 -5.933 -5.463						
50.0 1.402 3.458 4.363 4.830 5.573 6.543							50.0 -1.750 -3.245 -3.351 -2.806 -2.756 -2.365							50.0 -1.750 -3.245 -3.351 -2.806 -2.756 -2.365							50.0 -0.261 -0.841 -0.474 0.476 1.077 1.531						
75.0 5.417 8.225 9.023 13.972 11.422 13.650							75.0 4.549 4.612 5.815 4.958 7.560 6.350							75.0 4.549 4.612 5.815 4.958 7.560 6.350							75.0 4.167 5.755 6.571 8.617 9.762 11.571						
90.0 9.321 13.969 17.036 15.350 22.643 22.962							90.0 10.700 12.536 14.719 15.500 16.050 16.050							90.0 10.700 12.536 14.719 15.500 16.050 16.050							90.0 9.273 12.400 15.500 19.000 18.042 20.929						
95.0 12.425 18.114 21.542 24.425 28.806 28.464							95.0 14.517 17.528 23.188 23.768 22.536 21.972							95.0 14.517 17.528 23.188 23.768 22.536 21.972							95.0 12.950 18.545 22.714 24.625 25.364 28.400						
99.0 19.950 27.463 34.850 34.850 38.308 37.463							99.0 19.283 29.638 34.638 34.517 34.275 31.183							99.0 19.283 29.638 34.638 34.517 34.275 31.183							99.0 18.975 30.450 32.800 33.400 33.114 36.380						
NO. OF							NO. OF							NO. OF							NO. OF						
OBS. 203. 203. 203. 203. 203. 203.							OBS. 229. 229. 229. 229. 229. 229.							OBS. 229. 229. 229. 229. 229. 229.							OBS. 364. 364. 364. 364. 364. 364.						

TABLE 1b (cont'd)

FOR MONTH OF JANUARY				INITIAL WIND SPEED 40 TO 50 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 60 TO 70 (M/SEC)			
ALTIITUDE 6 TO 10 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTIITUDE 6 TO 10 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72			
1.0 -24.625				-24.650 -34.250 -37.125 -32.125 -34.850				1.0 -24.717 -39.575 -34.150 -39.150 -34.767				1.0 -24.717 -39.575 -34.150 -39.150 -34.767			
5.0 -18.625				-20.250 -26.250 -29.531 -27.321 -30.250				5.0 -23.583 -37.875 -30.750 -35.750 -33.937				5.0 -23.583 -37.875 -30.750 -35.750 -33.937			
10.0 -15.750				-17.500 -22.500 -25.937 -23.958 -26.071				10.0 -22.167 -35.750 -28.833 -33.833 -32.875				10.0 -22.167 -35.750 -28.833 -33.833 -32.875			
25.0 -10.625				-11.908 -14.345 -15.096 -15.694 -15.625				25.0 -16.875 -19.583 -24.583 -28.750 -29.375				25.0 -16.875 -19.583 -24.583 -28.750 -29.375			
50.0 -3.942				-5.521 -6.912 -7.500 -6.607 -6.167				50.0 -6.250 -11.250 -16.250 -19.167 -25.500				50.0 -6.250 -11.250 -16.250 -19.167 -25.500			
75.0 2.750				2.589 5.078 1.544 3.625 3.750				75.0 1.875 -3.750 -3.125 -6.250 -15.625				75.0 1.875 -3.750 -3.125 -6.250 -15.625			
90.0 8.500				9.773 11.250 8.438 12.813 15.500				90.0 8.250 5.750 5.750 -1.167 6.500				90.0 8.250 5.750 5.750 -1.167 6.500			
95.0 11.042				12.917 16.563 18.125 18.750 22.083				95.0 10.750 7.875 7.875 5.750 10.750				95.0 10.750 7.875 7.875 5.750 10.750			
99.0 14.875				24.250 37.125 38.083 37.125 37.125				99.0 14.150 9.575 9.575 9.150 14.150				99.0 14.150 9.575 9.150 14.150			
NO. OF				OBS.				NO. OF				OBS.			
OBS.				115. 115. 115. 115. 115.				OBS.				17. 17. 17. 17. 17.			

FOR MONTH OF JANUARY				INITIAL WIND SPEED 50 TO 60 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 70 TO 80 (M/SEC)			
ALTIITUDE 6 TO 10 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTIITUDE 6 TO 10 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72			
1.0 -24.400				-28.200 -38.200 -39.100 -39.100 -38.200				1.0 -24.450 -29.450 -34.450 -34.450 -39.450				1.0 -24.450 -29.450 -34.450 -34.450 -39.450			
5.0 -22.000				-24.000 -33.000 -35.500 -35.500 -33.000				5.0 -22.250 -27.250 -32.250 -32.250 -37.250				5.0 -22.250 -27.250 -32.250 -32.250 -37.250			
0.0 -18.500				-21.750 -29.625 -33.000 -31.000 -29.000				10.0 -19.500 -24.750 -24.750 -29.500 -29.833				10.0 -19.500 -24.750 -29.500 -29.833 -34.833			
25.0 -13.000				-17.143 -26.250 -25.000 -23.333 -21.250				25.0 -14.250 -20.625 -20.625 -21.250 -27.083				25.0 -14.250 -20.625 -21.250 -27.083 -32.083			
50.0 -6.250				-11.250 -13.750 -15.000 -13.333 -8.333				50.0 -11.500 -9.167 -13.750 -15.833 -17.500				50.0 -11.500 -9.167 -13.750 -15.833 -17.500			
75.0 2.143				0. -6.250 -4.000 -3.000 -0.				75.0 -6.875 -3.750 -2.917 -7.917 -11.250				75.0 -6.875 -3.750 -2.917 -7.917 -11.250			
90.0 8.500				11.000 3.500 2.333 5.667 11.000				90.0 -0.500 2.250 -0.167 -5.167 4.500				90.0 -0.500 2.250 -0.167 -5.167 4.500			
95.0 15.500				16.000 8.000 5.500 8.667 15.500				95.0 2.250 3.625 2.250 -2.750 7.250				95.0 2.250 3.625 2.250 -2.750 7.250			
99.0 19.100				23.200 13.200 9.100 13.200 19.100				99.0 4.450 4.725 4.450 -0.550 9.450				99.0 4.450 4.725 4.450 -0.550 9.450			
NO. OF				OBS.				NO. OF				OBS.			
OBS.				36. 36. 36. 36. 36.				OBS.				11. 11. 11. 11. 11.			

TABLE Ib (cont'd)

FOR MONTH OF JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JANUARY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT		
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	
1.0	-14.150	-14.575	-9.787	-9.787	-9.150	-9.150	1.0	-19.100	-14.100	-14.100	-14.100	-14.100	-9.700	
5.0	-10.750	-12.075	-8.937	-8.937	-5.750	-5.750	5.0	-15.500	-10.500	-10.500	-10.500	-10.500	-8.500	
10.0	-8.833	-10.750	-7.875	-7.875	-4.125	-3.833	10.0	-11.000	-8.667	-4.333	-6.000	-6.000	-7.000	
25.0	-4.792	-6.250	-4.375	-4.583	-0.937	0.417	25.0	-6.875	-4.375	-2.083	-0.833	0.417	0.625	
50.0	-1.250	0.625	3.125	2.500	3.500	6.500	50.0	-1.250	1.667	3.333	12.500	4.167	10.000	
75.0	4.583	6.250	9.583	9.583	13.750	11.250	75.0	3.500	9.167	15.833	24.167	23.750	21.250	
90.0	10.750	11.500	16.250	25.750	26.250	26.500	90.0	11.000	23.000	20.500	31.000	30.500	30.500	
95.0	12.875	15.750	30.750	27.875	30.750	30.750	95.0	20.500	30.500	22.750	35.500	32.750	32.750	
99.0	14.575	19.150	34.150	29.575	34.150	34.150	99.0	24.100	34.100	24.550	39.100	34.550	34.550	
NO. OF	17.	17.	17.	17.	17.	17.	NO. OF	18.	18.	18.	18.	18.	18.	
OBS.	17.	17.	17.	17.	17.	17.	OBS.	18.	18.	18.	18.	18.	18.	

TABLE 1c

January, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			JANUARY			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTIMUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS					PERCENT	ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-4.717	-4.150	0.425	0.850	0.425	1.0	-15.075	-14.105	-21.717	-20.075	-22.575
5.0	-3.583	-0.750	2.125	4.250	2.125	5.0	-9.192	-9.452	-10.639	-13.050	-14.037
10.0	-2.167	5.700	4.250	8.500	6.167	10.0	-6.717	-6.596	-7.985	-9.162	-10.325
25.0	2.083	8.250	15.208	16.250	20.417	25.0	-2.588	-1.644	-2.795	-3.495	-3.705
50.0	8.125	18.125	18.750	23.500	30.357	50.0	2.641	4.414	4.350	3.883	4.188
75.0	13.438	23.437	26.875	31.250	33.393	75.0	8.286	11.875	12.827	11.836	12.409
90.0	21.500	31.500	33.250	35.750	35.750	90.0	14.161	18.978	20.821	20.542	19.481
95.0	25.750	35.750	35.750	37.875	37.875	95.0	19.229	23.383	26.313	27.964	27.688
99.0	29.150	39.150	39.150	39.575	39.575	99.0	24.559	31.717	35.050	37.030	37.879
NO. OF OBS.	17.	17.	17.	17.	17.	NO. OF OBS.	297.	297.	297.	297.	297.

FOR MONTH OF JANUARY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			JANUARY			INITIAL WIND SPEED 40 TO 50 (M/SEC)		
ALTIMUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS					PERCENT	ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.237	-13.900	-16.950	-14.450	-19.450	1.0	-16.975	-21.712	-24.370	-24.094	-25.617
5.0	-6.187	-8.292	-9.045	-8.278	-9.045	5.0	-12.308	-14.766	-17.380	-17.466	-18.570
10.0	-4.417	-5.750	-6.273	-4.941	-6.273	10.0	-9.404	-12.250	-13.949	-14.068	-14.579
25.0	-1.875	-1.827	-1.477	0.441	-1.310	25.0	-4.972	-6.875	-8.212	-9.115	-9.407
50.0	2.656	3.621	6.136	8.261	9.737	50.0	-0.587	-0.958	-1.881	-2.896	-3.362
75.0	8.229	9.688	14.219	23.179	19.808	75.0	5.976	6.938	6.556	4.852	4.693
90.0	13.267	16.800	23.167	26.429	29.800	90.0	11.446	14.088	14.697	15.643	15.175
95.0	15.900	23.625	28.900	33.250	33.688	95.0	14.574	18.963	22.250	23.031	21.750
99.0	33.900	36.950	36.950	38.475	38.983	99.0	23.370	30.617	35.370	35.370	35.370
NO. OF OBS.	122.	122.	122.	122.	122.	NO. OF OBS.	463.	463.	463.	463.	463.

TABLE Ic (cont'd)

FOR MONTH OF			JANUARY			INITIAL WIND SPEED 50 TO 60 (M/SEC)			FOR MONTH OF			JANUARY			INITIAL WIND SPEED 70 TO 80 (M/SEC)						
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72				
1.0	-21.687	-28.350	-31.687	-36.687	-34.536	-34.083	1.0	-32.300	-39.100	-39.614	-39.662	-39.550	-39.662	5.0	-25.750	-35.500	-38.071	-38.312	-37.750	-38.312	-36.312
5.0	-16.917	-22.411	-25.375	-27.396	-26.068	-27.969	10.0	-13.697	-18.679	-19.931	-22.115	-22.833	-23.152	25.0	-12.708	-22.500	-27.500	-28.500	-29.062	-28.664	-26.864
10.0	-8.658	-12.896	-14.482	-14.704	-14.976	-15.491	50.0	-2.972	-6.203	-7.108	-6.090	-6.906	-8.198	75.0	1.944	-4.643	-10.357	-13.750	-12.083	-11.500	-11.500
50.0	4.344	3.512	0.417	-0.022	-0.208	2.150	90.0	10.625	14.219	11.250	11.833	13.654	14.167	95.0	16.375	20.469	20.750	17.679	19.063	19.500	11.500
90.0	16.375	20.469	20.750	17.679	19.063	19.886	99.0	23.350	29.188	28.969	31.750	30.875	29.188	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF
OBS.	265.	265.	265.	265.	265.	265.	OBS.	265.	265.	265.	265.	265.	265.	OBS.	54.	54.	54.	54.	54.	54.	54.

FOR MONTH OF			JANUARY			INITIAL WIND SPEED 60 TO 70 (M/SEC)			FOR MONTH OF			JANUARY			INITIAL WIND SPEED 80 TO 90 (M/SEC)						
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72				
1.0	-29.437	-29.250	-33.964	-38.187	-38.792	-38.792	1.0	-29.767	-39.300	-39.650	-39.767	-39.825	-39.767	5.0	-28.833	-36.500	-38.250	-38.833	-39.125	-38.833	-38.833
5.0	-21.250	-23.750	-29.886	-31.750	-32.917	-34.306	10.0	-17.045	-20.962	-26.591	-26.944	-27.250	-30.278	25.0	-27.667	-34.500	-36.500	-37.667	-38.250	-37.667	-37.667
10.0	-10.687	-14.950	-18.527	-19.293	-19.567	-21.776	50.0	-4.712	-7.870	-11.250	-12.339	-12.768	-14.239	75.0	-23.750	-31.875	-28.750	-32.500	-35.625	-34.167	-34.167
50.0	3.092	0.677	-1.328	-3.558	-3.942	-3.304	90.0	-12.500	-17.500	-17.500	-17.500	-17.500	-17.500	95.0	-21.667	-18.333	-25.000	-25.000	-25.000	-25.000	-25.000
90.0	8.816	8.500	8.214	11.944	9.063	7.500	99.0	-7.500	-13.500	-15.400	-2.000	-2.000	8.000	6.500	6.500	6.500	6.500	6.500	6.500	6.500	
95.0	11.719	13.594	14.750	16.750	16.719	14.688	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF
99.0	16.375	23.188	21.375	24.250	27.750	22.583	OBS.	145.	145.	145.	145.	145.	145.	OBS.	14.	14.	14.	14.	14.	14.	14.
OBS.	145.	145.	145.	145.	145.	145.	OBS.	145.	145.	145.	145.	145.	145.	OBS.	14.	14.	14.	14.	14.	14.	14.



TABLE Ic (cont'd)

FOR MONTH OF JANUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-13.450	-13.450	-13.450	-9.225	-13.450	-9.483		1.0	-14.957	-19.935	-23.225	-26.087	-24.870	-26.087	
5.0	-9.083	-8.625	-8.625	-6.125	-7.250	-7.417		5.0	-10.783	-14.424	-16.068	-17.827	-17.609	-17.117	
10.0	-6.500	-4.875	-4.875	0.050	-2.250	-4.875		10.0	-8.643	-11.022	-12.109	-12.925	-13.596	-13.450	
25.0	-1.250	0.536	0.625	2.375	4.687	0.936		25.0	-4.414	-5.775	-6.614	-6.250	-6.378	-7.017	
50.0	4.063	6.071	6.563	8.125	10.313	7.813		50.0	-0.339	0.524	0.615	0.750	1.298	1.570	
75.0	8.125	11.875	13.750	21.250	16.250	15.313		75.0	4.484	7.230	7.578	9.063	8.897	10.104	
90.0	11.500	16.500	19.875	32.250	33.625	24.500		90.0	9.962	13.596	14.389	16.500	16.808	18.250	
95.0	14.083	19.083	23.625	36.125	36.125	36.125		95.0	13.655	18.479	20.250	21.306	23.063	24.250	
99.0	23.450	23.450	28.450	39.225	39.225	39.225		99.0	23.117	27.175	33.117	36.870	36.088	36.088	
NO. OF								NO. OF							
OBS.	31.	31.	31.	31.	31.	31.		OBS.	313.	313.	313.	313.	313.	313.	

FOR MONTH OF JANUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 40 TO 50 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-15.350	-15.350	-15.350	-15.350	-14.570	-15.700		1.0	-15.250	-21.833	-27.750	-29.250	-28.875	-27.100	
5.0	-8.795	-9.521	-9.083	-9.589	-10.850	-10.944		5.0	-12.125	-16.719	-18.750	-20.357	-21.458	-21.607	
10.0	-6.682	-7.583	-6.500	-7.929	-7.753	-7.077		10.0	-9.492	-13.548	-14.800	-15.625	-16.765	-17.059	
25.0	-3.233	-3.418	-2.606	-3.145	-2.628	-2.187		25.0	-5.805	-7.892	-7.880	-8.232	-8.851	-9.511	
50.0	0.789	1.757	3.056	3.649	3.250	4.265		50.0	-1.461	-1.532	-1.167	-1.349	-0.600	-0.694	
75.0	4.868	8.409	8.963	9.244	11.583	13.281		75.0	4.745	6.011	7.635	7.938	8.882	8.750	
90.0	9.714	13.783	15.222	16.545	19.385	21.700		90.0	9.362	12.000	15.313	17.000	17.368	18.478	
95.0	13.850	18.083	21.167	22.833	27.250	26.929		95.0	13.036	17.750	19.844	22.500	22.250	23.125	
99.0	22.850	28.567	33.567	35.350	36.900	35.350		99.0	25.167	28.100	29.100	33.500	35.167	31.375	
NO. OF								NO. OF							
OBS.	186.	186.	186.	186.	186.	186.		OBS.	290.	290.	290.	290.	290.	290.	

TABLE Ic (cont'd)

FOR MONTH OF JANUARY				INITIAL WIND SPEED 50 TO 60 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 70 TO 80 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-24.433	-20.300	-26.650	-20.300	-24.660	-29.660		1.0	-29.250	-34.250	-38.500	-38.500	-38.500	-38.500	
5.0	-18.071	-20.300	-21.643	-19.650	-24.300			5.0	-26.250	-31.250	-33.750	-33.750	-33.750	-33.750	
10.0	-14.478	-16.800	-16.800	-16.857	-16.300	-18.667		10.0	-20.000	-25.000	-30.000	-30.000	-30.000	-30.000	
25.0	-10.109	-10.147	-11.071	-10.139	-8.977	-10.781		25.0	-8.500	-13.750	-19.167	-22.500	-24.583	-23.500	
50.0	-4.032	-4.583	-4.038	-3.478	-2.419	-2.895		50.0	-2.778	-4.167	-6.333	-9.375	-9.266	-12.000	
75.0	3.036	3.833	3.676	4.861	5.938	6.447		75.0	1.786	2.500	0.625	-4.167	-3.500	1.250	
90.0	8.842	9.368	12.800	10.667	10.429	14.125		90.0	5.000	7.500	6.667	3.333	2.500	5.000	
95.0	11.917	13.583	20.250	13.458	15.300	21.083		95.0	11.250	9.375	9.167	7.500	6.250	7.500	
99.0	23.300	26.650	24.717	28.300	21.850	28.300		99.0	14.250	13.500	13.500	13.500	9.250	9.500	
NO. OF								NO. OF							
OBS.	134.	134.	134.	134.	134.	134.		OBS.	30.	30.	30.	30.	30.	30.	

FOR MONTH OF JANUARY				INITIAL WIND SPEED 60 TO 70 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 80 TO 90 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-29.100	-38.200	-38.200	-38.200	-38.200	-29.100		1.0	-19.725	-34.450	-39.450	-39.725	-39.725	-39.908	
5.0	-25.500	-31.000	-31.000	-31.000	-26.000	-25.500		5.0	-18.625	-32.250	-37.250	-36.625	-36.625	-39.542	
10.0	-22.333	-23.500	-22.333	-22.333	-19.667	-23.400		10.0	-17.250	-29.833	-34.500	-37.250	-37.250	-39.083	
25.0	-14.000	-14.286	-16.000	-17.143	-16.667	-18.571		25.0	-8.750	-27.083	-21.250	-28.750	-33.125	-37.708	
50.0	-6.875	-6.250	-10.000	-11.250	-10.714	-12.143		50.0	-4.375	-12.500	-13.833	-14.167	-22.500	-35.417	
75.0	1.250	2.500	-0.	-3.333	-2.500	-1.250		75.0	-0.937	-6.875	-8.750	-9.375	-13.750	-16.875	
90.0	7.400	10.667	10.667	3.500	4.400	10.667		90.0	4.500	2.250	-2.750	-5.250	-5.500	-5.500	
95.0	9.200	13.667	13.667	11.000	8.000	13.667		95.0	7.250	3.625	-1.375	-2.750	-2.750	-2.750	
99.0	13.200	18.200	18.200	23.200	13.200	28.200		99.0	9.450	4.725	-0.275	-0.550	-0.550	-0.550	
NO. OF								NO. OF							
OBS.	36.	36.	36.	36.	36.	36.		OBS.	11.	11.	11.	11.	11.	11.	

TABLE Ic (cont'd)

FOR MONTH OF ALTITUDE 11 TO 15 (KM)	JANUARY		INITIAL WIND SPEED		20 TO 30 (M/SEC)	
	15 (KM)		INITIAL DIRECTION		315 TO 360 (DEG)	
	WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS			
PERCENT LEVELS	12	24	36	48	60	72
1.0	-14.500	-14.750	-9.750	-9.500	-9.750	-9.500
5.0	-12.500	-13.750	-8.750	-7.500	-8.750	-7.500
10.0	-10.000	-12.500	-7.500	-5.000	-7.500	-5.000
25.0	-6.250	-7.500	-4.375	0.500	-4.375	-3.125
50.0	-3.333	-2.500	-1.250	3.000	-1.250	-0.
75.0	-1.250	1.250	7.500	10.833	12.500	7.500
90.0	10.000	10.000	12.500	13.333	25.000	30.000
95.0	12.500	12.500	13.750	14.167	27.500	32.500
99.0	14.500	14.500	14.750	14.833	29.500	34.500
NO. OF OBS.	10.	10.	10.	10.	10.	10.

TABLE Id

January, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JANUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				JANUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				16 TO 20 (KM)				INITIAL DIRECTION 160 TO 225 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-4.820	-4.550	-4.775	-4.550	-4.550	-4.550		1.0	-9.700	-9.700	-19.400	-14.400	-4.850	-9.700	
5.0	-4.100	-2.750	-3.875	-2.750	-2.750	-2.750		5.0	-8.500	-8.500	-17.000	-12.000	-4.250	-8.500	
10.0	-3.200	-0.500	-2.750	-0.500	-0.500	-0.500		10.0	-7.000	-7.000	-9.500	-9.500	-3.500	-7.000	
25.0	-0.500	1.786	0.500	3.125	4.167	5.625		25.0	-3.333	-2.500	-5.000	-5.000	-1.250	-3.333	
50.0	4.000	5.000	5.000	7.500	9.000	10.833		50.0	1.667	3.333	2.500	5.000	5.000	7.500	
75.0	8.500	9.500	9.500	11.500	12.917	14.583		75.0	6.667	10.000	10.000	12.500	10.000	15.000	
90.0	12.000	20.500	15.500	14.200	16.000	18.667		90.0	9.667	14.500	13.000	17.000	19.500	19.500	
95.0	13.500	22.750	17.750	15.500	20.500	20.500		95.0	22.000	17.000	14.000	18.500	27.000	27.000	
99.0	14.700	24.550	19.550	19.100	24.100	24.100		99.0	24.400	19.400	14.800	19.700	29.400	29.400	
NO. OF OBS.	16.	16.	16.	16.	16.	16.		NO. OF OBS.	12.	12.	12.	12.	12.	12.	

FOR MONTH OF JANUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				JANUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC) <sup>a</sup>			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 160 TO 225 (DEG)				16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-4.744	-4.795	-4.829	-4.772	-7.950	-4.658		1.0	-6.957	-7.567	-6.783	-6.957	-9.087	-9.270	
5.0	-3.719	-3.975	-4.146	-3.661	-4.125	-3.292		5.0	-4.969	-4.587	-4.941	-4.962	-5.437	-6.350	
10.0	-2.437	-2.950	-3.292	-2.722	-2.417	-1.583		10.0	-4.208	-3.885	-3.951	-4.026	-4.132	-4.378	
25.0	1.023	0.179	-0.729	0.625	1.806	1.932		25.0	-1.927	-1.779	-1.280	-1.218	-1.250	-1.419	
50.0	5.625	6.029	5.835	5.577	7.045	7.917		50.0	1.636	2.093	3.250	3.068	3.553	2.708	
75.0	9.896	9.044	11.719	9.519	12.344	14.644		75.0	4.955	7.500	6.879	6.047	8.269	7.589	
90.0	13.278	14.833	17.250	14.900	17.375	19.214		90.0	10.200	13.714	15.286	13.357	13.000	12.800	
95.0	14.417	17.438	22.375	19.875	19.938	24.750		95.0	13.950	18.700	20.583	18.375	16.417	15.583	
99.0	22.950	19.487	27.950	27.950	27.950	26.975		99.0	21.350	27.567	26.350	27.700	27.567	22.700	
NO. OF OBS.	41.	41.	41.	41.	41.	41.		NO. OF OBS.	146.	146.	146.	146.	146.	146.	

TABLE Id (cont'd)

FOR MONTH OF JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JANUARY			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-12.733	-14.133	-13.867	-14.330	-14.189	1.0	-25.717	-26.787	-25.717	-24.509	-28.037
5.0	-8.925	-9.458	-9.810	-10.783	-9.973	5.0	-16.075	-18.172	-18.574	-21.297	-19.798
10.0	-7.000	-7.729	-8.190	-8.576	-8.613	10.0	-11.656	-14.413	-14.903	-17.929	-16.738
25.0	-3.540	-3.926	-4.095	-4.188	-4.208	25.0	-7.319	-8.479	-9.710	-10.898	-11.366
50.0	0.238	-0.148	0.380	0.299	0.068	50.0	-1.992	-3.125	-4.057	-4.139	-4.716
75.0	5.137	6.194	6.328	7.310	7.636	75.0	3.995	3.934	2.379	2.083	2.774
90.0	9.329	11.308	12.290	14.486	14.632	90.0	9.565	10.083	9.130	5.021	8.904
95.0	12.789	13.923	16.385	18.320	18.520	95.0	13.383	13.653	13.705	14.528	13.575
99.0	19.950	23.200	23.844	31.150	24.956	99.0	18.879	19.525	21.788	24.050	24.050
NO. OF						NO. OF					
OBS.	408.	408.	408.	408.	408.	OBS.	257.	257.	257.	257.	257.

FOR MONTH OF JANUARY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JANUARY			INITIAL WIND SPEED 40 TO 50 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.632	-19.632	-20.237	-21.825	-19.219	1.0	-29.883	-24.956	-29.883	-24.950	-27.325
5.0	-13.737	-14.065	-14.182	-14.819	-14.994	5.0	-23.650	-22.281	-24.036	-21.893	-23.477
10.0	-9.606	-10.537	-11.608	-11.534	-12.612	10.0	-18.937	-19.150	-20.214	-18.962	-21.045
25.0	-4.576	-5.951	-6.465	-6.907	-7.254	25.0	-10.568	-12.721	-13.393	-13.894	-16.181
50.0	-0.206	-0.203	-0.702	-0.801	-1.236	50.0	-4.327	-5.833	-7.500	-8.646	-10.833
75.0	5.065	6.193	7.182	7.662	6.250	75.0	1.417	-0.350	-1.761	-2.279	-3.365
90.0	9.991	11.190	12.779	13.890	13.130	90.0	7.038	6.650	7.063	4.611	5.188
95.0	13.384	14.474	14.994	17.488	17.797	95.0	9.096	9.325	10.650	8.875	8.531
99.0	19.421	20.317	25.317	26.488	24.550	99.0	17.325	17.325	14.930	19.825	17.325
NO. OF						NO. OF					
OBS.	381.	381.	381.	381.	381.	OBS.	107.	107.	107.	107.	107.

TABLE Id (cont'd)

FOR MONTH OF JANUARY				INITIAL WIND SPEED 50 TO 60 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72			
1.0	-33.900	-29.633	-38.900	-34.450	-38.900	-29.725		1.0	-12.330	-11.942	-13.471	-14.215	-14.266	-14.814	
5.0	-29.750	-28.167	-34.500	-32.250	-34.500	-28.625		5.0	-8.597	-9.035	-9.526	-9.970	-11.330	-10.736	
10.0	-27.000	-26.333	-24.800	-29.000	-29.667	-27.250		10.0	-6.511	-7.602	-8.157	-8.415	-9.056	-8.846	
25.0	-14.583	-20.833	-21.500	-22.917	-24.167	-24.167		25.0	-3.570	-4.144	-4.415	-4.359	-4.745	-4.836	
50.0	-10.000	-15.000	-16.667	-16.367	-16.250	-21.111		50.0	-0.428	-0.531	-0.206	-0.370	0.250	0.761	
75.0	-2.500	-6.250	-9.375	-5.833	-6.750	-12.500		75.0	4.003	5.101	5.784	5.530	6.683	7.409	
90.0	3.000	-0.333	-5.250	-2.200	-2.000	-7.750		90.0	8.269	9.540	11.060	10.411	11.060	13.217	
95.0	4.833	4.500	4.500	-1.100	-0.167	-6.375		95.0	9.968	13.163	14.730	13.688	14.730	18.825	
99.0	8.900	8.900	13.900	-0.220	3.900	-5.275		99.0	20.413	25.825	26.663	22.217	25.413	25.413	
NO. OF								NO. OF							
Obs.	22.	22.	22.	22.	22.	22.		Obs.	367.	367.	367.	367.	367.	367.	

FOR MONTH OF JANUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF JANUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72			
1.0	-7.767	-8.883	-8.325	-9.256	-9.162	-8.883		1.0	-16.162	-16.930	-16.850	-19.942	-19.406	-19.465	
5.0	-4.580	-4.917	-4.614	-6.278	-5.812	-4.897		5.0	-12.013	-13.083	-13.837	-14.206	-14.317	-14.591	
10.0	-3.818	-4.119	-3.657	-4.290	-4.229	-3.912		10.0	-9.369	-10.241	-10.500	-12.287	-12.811	-12.720	
25.0	-1.534	-1.726	-0.766	-1.046	-1.357	-0.956		25.0	-5.594	-6.660	-6.835	-7.382	-8.005	-8.115	
50.0	2.222	2.065	2.917	3.462	3.158	3.750		50.0	-1.690	-2.101	-1.616	-1.741	-1.854	-1.875	
75.0	6.417	6.250	7.177	9.300	7.786	8.224		75.0	2.750	3.514	3.885	4.477	5.169	6.169	
90.0	9.767	10.333	11.000	14.150	12.091	13.000		90.0	7.365	8.695	8.913	9.478	12.060	13.982	
95.0	16.625	14.056	13.577	19.125	15.500	17.675		95.0	10.589	11.788	12.558	13.804	15.361	17.838	
99.0	27.767	26.850	21.650	26.650	24.433	26.650		99.0	14.975	18.930	21.550	19.961	23.275	24.108	
NO. OF								NO. OF							
Obs.	134.	134.	134.	134.	134.	134.		Obs.	307.	307.	307.	307.	307.	307.	

TABLE Id (cont'd)

FOR MONTH OF JANUARY					INITIAL WIND SPEED 30 TO 40 (M/SEC)					FOR MONTH OF JANUARY					INITIAL WIND SPEED 0 TO 10 (M/SEC)										
ALTITUDE 16 TO 20 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					ALTITUDE 16 TO 20 (KM)					INITIAL DIRECTION 315 TO 360 (DEG)										
WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)										
ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS										
PERCENT	12	24	36	48	72	PERCENT	12	24	36	48	72	PERCENT	12	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	1.0	-18.560	-22.800	-21.400	-23.971	-23.560	-24.450	1.0	-8.200	-9.100	-9.100	-4.820	-8.200	-8.200	-8.200	-8.200	-8.200	-8.200	LEVELS	1.0	-8.200	-9.100	-9.100	-4.820	-8.200
5.0	-14.000	-17.111	-19.909	-19.214	-18.900	5.0	-4.765	-5.500	-5.500	-4.100	-4.500	-4.500	-4.500	-4.500	-4.500	-4.500	-4.500	-4.500	5.0	-4.765	-5.500	-5.500	-4.100	-4.500	
10.0	-10.727	-13.513	-13.867	-16.636	-16.643	-15.300	10.0	-4.235	-4.556	-4.200	-3.200	-3.375	-3.143	-3.143	-3.143	-3.143	-3.143	-3.143	10.0	-4.235	-4.556	-4.200	-3.200	-3.375	
25.0	-6.667	-8.289	-8.780	-10.909	-10.932	-11.379	25.0	-2.647	-3.056	-1.500	-0.500	-0.455	0.455	0.455	0.455	0.455	0.455	0.455	25.0	-2.647	-3.056	-1.500	-0.500	-0.455	
50.0	-2.797	-3.625	-4.403	-5.294	-4.000	-5.758	50.0	-0.405	-0.556	2.500	2.857	4.091	4.545	4.545	4.545	4.545	4.545	4.545	50.0	-0.405	-0.556	2.500	2.857	4.091	
75.0	0.625	1.296	-0.119	3.500	2.333	1.667	75.0	3.462	6.875	6.667	7.500	10.000	7.857	7.857	7.857	7.857	7.857	7.857	75.0	3.462	6.875	6.667	7.500	10.000	
90.0	5.273	6.000	7.300	6.385	9.846	9.875	90.0	7.333	10.500	9.667	12.400	13.857	9.786	9.786	9.786	9.786	9.786	9.786	90.0	7.333	10.500	9.667	12.400	13.857	
95.0	8.545	10.800	11.286	9.154	14.250	14.250	95.0	10.500	12.750	12.000	14.200	21.000	16.000	16.000	16.000	16.000	16.000	16.000	95.0	10.500	12.750	12.000	14.200	21.000	
99.0	22.800	18.900	22.800	22.600	23.900	19.560	99.0	14.100	14.550	14.400	18.200	28.200	23.200	23.200	23.200	23.200	23.200	23.200	99.0	14.100	14.550	14.400	18.200	28.200	
NO. OF	144.	144.	144.	144.	144.	144.	NO. OF	36.	36.	36.	36.	36.	36.	36.	36.	36.	36.	36.	NO. OF	36.	36.	36.	36.	36.	36.
OBS.	144.	144.	144.	144.	144.	144.	OBS.	36.	36.	36.	36.	36.	36.	36.	36.	36.	36.	36.	OBS.	36.	36.	36.	36.	36.	36.

FOR MONTH OF JANUARY					INITIAL WIND SPEED 40 TO 50 (M/SEC)					FOR MONTH OF JANUARY					INITIAL WIND SPEED 10 TO 20 (M/SEC)										
ALTITUDE 16 TO 20 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					ALTITUDE 16 TO 20 (KM)					INITIAL DIRECTION 315 TO 360 (DEG)										
WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)										
ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS										
PERCENT	12	24	36	48	72	PERCENT	12	24	36	48	72	PERCENT	12	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	1.0	-24.600	-29.400	-28.800	-33.800	-29.600	-28.800	1.0	-14.200	-14.600	-14.200	-19.200	-19.200	-19.200	-19.200	-19.200	-19.200	-19.200	LEVELS	1.0	-14.200	-14.600	-14.200	-19.200	-19.200
5.0	-23.000	-27.000	-24.750	-29.000	-28.000	-24.500	5.0	-11.000	-13.000	-11.000	-16.000	-16.000	-16.000	-16.000	-16.000	-16.000	-16.000	-16.000	5.0	-11.000	-13.000	-11.000	-16.000	-16.000	
10.0	-21.000	-23.000	-23.250	-23.000	-26.000	-21.500	10.0	-9.400	-11.000	-9.400	-14.000	-12.000	-12.000	-12.000	-12.000	-12.000	-12.000	-12.000	10.0	-9.400	-11.000	-9.400	-14.000	-12.000	
25.0	-10.000	-11.667	-17.500	-15.000	-13.333	-13.333	25.0	-7.000	-3.333	-4.286	-10.000	-5.000	-6.667	-6.667	-6.667	-6.667	-6.667	-6.667	25.0	-7.000	-3.333	-4.286	-10.000	-5.000	
50.0	-4.000	-7.500	-9.167	-9.000	-8.750	-7.500	50.0	-2.500	1.429	-1.429	-3.000	1.250	-2.000	-2.000	-2.000	-2.000	-2.000	-2.000	50.0	-2.500	1.429	-1.429	-3.000	1.250	
75.0	-1.000	-3.333	-3.333	-3.000	-5.000	-1.667	75.0	3.333	4.286	2.500	6.667	10.000	3.333	3.333	3.333	3.333	3.333	3.333	75.0	3.333	4.286	2.500	6.667	10.000	
90.0	8.000	11.500	4.000	3.000	1.500	8.000	90.0	12.000	7.333	7.000	12.000	14.000	17.000	17.000	17.000	17.000	17.000	17.000	90.0	12.000	7.333	7.000	12.000	14.000	
95.0	14.000	14.500	7.000	9.000	4.500	12.000	95.0	16.000	8.667	11.000	16.000	16.000	21.000	21.000	21.000	21.000	21.000	21.000	95.0	16.000	8.667	11.000	16.000	16.000	
99.0	23.800	23.800	9.400	28.800	23.800	14.400	99.0	19.200	9.733	14.200	19.200	19.200	24.200	24.200	24.200	24.200	24.200	24.200	99.0	19.200	9.733	14.200	19.200	19.200	
NO. OF	24.	24.	24.	24.	24.	24.	NO. OF	16.	16.	16.	16.	16.	16.	16.	16.	16.	16.	16.	NO. OF	16.	16.	16.	16.	16.	16.
OBS.	24.	24.	24.	24.	24.	24.	OBS.	16.	16.	16.	16.	16.	16.	16.	16.	16.	16.	16.	OBS.	16.	16.	16.	16.	16.	16.

TABLE 1e

January, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JANUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				JANUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-4.975	-7.900	-7.900	-6.850	-4.971	-6.425		1.0	-6.625	-9.083	-9.450	-9.515	-9.484	-9.484	
5.0	-4.480	-4.607	-4.607	-4.522	-4.411	-4.750		5.0	-4.844	-5.417	-7.250	-7.574	-7.422	-7.422	
10.0	-3.863	-4.040	-3.857	-3.822	-3.711	-4.065		10.0	-4.271	-4.479	-4.901	-5.147	-4.964	-4.952	
25.0	-2.010	-2.150	-1.607	-1.722	-1.611	-2.011		25.0	-2.552	-2.760	-3.273	-3.135	-3.196	-2.572	
50.0	1.078	1.111	1.731	1.778	2.297	1.806		50.0	0.368	0.163	-0.559	0.053	-0.250	1.318	
75.0	4.167	4.611	4.760	5.521	6.917	6.848		75.0	3.944	4.647	3.899	4.441	3.852	5.139	
90.0	7.737	8.500	8.905	5.458	10.182	12.000		90.0	7.717	9.135	8.370	5.875	7.935	9.722	
95.0	9.395	9.932	11.700	12.056	13.045	14.864		95.0	9.511	12.679	10.750	14.306	9.728	13.375	
99.0	14.567	14.740	19.350	14.856	18.700	24.350		99.0	15.875	21.750	18.917	19.458	14.458	21.750	
NO. OF OBS.	126.	126.	126.	126.	126.	126.		NO. OF OBS.	165.	165.	165.	165.	165.	165.	

FOR MONTH OF JANUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				JANUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-9.425	-13.850	-9.712	-14.425	-13.850	-14.617		1.0	-13.983	-14.390	-14.723	-14.564	-18.475	-18.475	
5.0	-7.125	-9.750	-8.562	-12.125	-9.932	-13.083		5.0	-9.987	-11.950	-13.614	-12.821	-14.523	-14.523	
10.0	-4.812	-7.833	-7.125	-9.625	-9.409	-11.167		10.0	-9.225	-9.771	-12.227	-10.643	-13.136	-13.136	
25.0	-2.656	-4.205	-4.327	-5.312	-7.041	-6.625		25.0	-6.937	-7.865	-8.988	-8.669	-9.612	-9.531	
50.0	0.750	-1.591	-2.115	-2.500	-5.227	-5.750		50.0	-3.500	-4.659	-5.357	-6.210	-6.983	-6.354	
75.0	3.625	2.813	0.313	0.313	-1.250	-1.964		75.0	-0.450	-1.193	-1.562	-1.771	-3.437	-2.657	
90.0	6.167	7.933	4.625	4.625	2.833	3.500		90.0	4.313	3.250	2.417	2.722	0.900	-0.289	
95.0	8.083	9.750	7.125	7.125	4.750	9.250		95.0	8.250	6.583	4.958	4.417	3.950	3.250	
99.0	9.617	18.850	9.425	9.425	8.850	13.850		99.0	13.475	11.950	8.983	11.950	16.950	21.950	
NO. OF OBS.	23.	23.	23.	23.	23.	23.		NO. OF OBS.	61.	61.	61.	61.	61.	61.	



TABLE 1e (cont'd)

FOR MONTH OF			JANUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			JANUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.100	-9.421	-9.325	-9.614	-9.377	1.0	-7.600	-7.600	-9.100	-9.345	-8.200	1.0	-7.600	-7.600	-9.100	-9.345	-8.200
5.0	-5.500	-7.107	-6.625	-8.071	-6.885	5.0	-4.644	-4.677	-5.500	-6.727	-4.660	5.0	-4.644	-4.677	-5.500	-6.727	-4.660
10.0	-4.514	-4.849	-4.691	-6.143	-4.765	10.0	-4.034	-4.123	-4.304	-4.630	-3.894	10.0	-4.034	-4.123	-4.304	-4.630	-3.894
25.0	-2.872	-3.185	-2.904	-3.375	-2.978	25.0	-2.203	-2.462	-1.957	-2.283	-1.596	25.0	-2.203	-2.462	-1.957	-2.283	-1.596
50.0	-0.135	-0.411	0.100	-0.	0.263	50.0	0.877	0.444	1.552	1.531	2.019	50.0	0.877	0.444	1.552	1.531	2.019
75.0	3.105	3.255	4.150	4.050	4.133	75.0	4.035	4.444	4.655	5.333	5.781	75.0	4.035	4.444	4.655	5.333	5.781
90.0	5.333	6.611	8.292	7.846	8.591	90.0	7.650	8.320	8.385	6.933	9.156	90.0	7.650	8.320	8.385	6.933	9.156
95.0	8.708	8.861	9.979	9.404	11.583	95.0	9.450	9.760	9.769	11.333	13.222	95.0	9.450	9.760	9.769	11.333	13.222
99.0	15.950	13.967	25.950	14.225	21.900	99.0	14.450	17.600	14.560	22.800	36.400	99.0	14.450	17.600	14.560	22.800	36.400
NO. OF						NO. OF						NO. OF					
OBS.	162.	162.	162.	162.	162.	OBS.	144.	144.	144.	144.	144.	OBS.	144.	144.	144.	144.	144.

FOR MONTH OF			JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF			JANUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-13.967	-13.967	-13.967	-14.380	-14.557	1.0	-14.400	-14.700	-9.700	-14.700	-9.850	1.0	-14.400	-14.700	-9.700	-14.700	-9.850
5.0	-9.969	-9.978	-9.982	-11.900	-12.786	5.0	-12.000	-13.500	-8.500	-13.500	-9.250	5.0	-12.000	-13.500	-8.500	-13.500	-9.250
10.0	-9.000	-9.304	-9.429	-9.727	-10.571	10.0	-9.667	-12.000	-7.000	-12.000	-8.500	10.0	-9.667	-12.000	-7.000	-12.000	-8.500
25.0	-6.094	-7.283	-7.768	-7.814	-8.629	25.0	-6.667	-8.750	-4.167	-8.750	-6.250	25.0	-6.667	-8.750	-4.167	-8.750	-6.250
50.0	-3.125	-3.864	-5.000	-4.167	-6.129	50.0	-2.500	-5.000	-1.667	-5.000	-3.333	50.0	-2.500	-5.000	-1.667	-5.000	-3.333
75.0	-0.703	-0.341	-1.771	-0.937	-2.344	75.0	2.500	-2.000	2.500	-1.250	-0.833	75.0	2.500	-2.000	2.500	-1.250	-0.833
90.0	4.000	4.875	0.800	4.000	3.000	90.0	9.000	-0.200	7.000	4.000	2.000	90.0	9.000	-0.200	7.000	4.000	2.000
95.0	8.167	9.833	3.900	6.900	7.375	95.0	17.000	2.000	8.500	7.000	3.500	95.0	17.000	2.000	8.500	7.000	3.500
99.0	13.450	13.967	13.450	9.380	16.900	99.0	19.400	4.400	9.700	9.400	4.700	99.0	19.400	4.400	9.700	9.400	4.700
NO. OF						NO. OF						NO. OF					
OBS.	62.	62.	62.	62.	62.	OBS.	12.	12.	12.	12.	12.	OBS.	12.	12.	12.	12.	12.

TABLE 1e (cont'd)

FOR MONTH OF		JANUARY		INITIAL WIND SPEED		0 TO		10 (M/SEC)		FOR MONTH OF		JANUARY		INITIAL WIND SPEED		0 TO		10 (M/SEC)					
ALTITUDE 21 TO 25 (KM)		25 (KM)		INITIAL DIRECTION		180 TO		225 (DEG)		ALTITUDE 21 TO 25 (KM)		25 (KM)		INITIAL DIRECTION		225 TO		270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-6.878	-6.833	-7.980	-8.737	-8.737	-8.737	-8.878	1.0	-8.469	-9.005	-9.005	-9.314	-9.289	-9.289	-9.005	5.0	-4.935	-4.935	-4.664	-4.850	-6.569	-6.446	-5.025
5.0	-4.935	-4.551	-4.664	-4.850	-4.850	-4.850	-4.918	5.0	-4.795	-5.025	-5.025	-5.569	-6.446	-6.446	-5.025	10.0	-4.341	-3.911	-4.000	-4.129	-4.649	-4.612	-4.312
10.0	-4.341	-3.911	-4.000	-4.129	-4.129	-4.129	-4.164	10.0	-4.202	-4.407	-4.407	-4.649	-4.612	-4.601	-4.312	25.0	-2.559	-1.994	-2.007	-1.964	-2.711	-2.648	-2.240
25.0	-2.559	-1.994	-2.007	-1.964	-1.964	-1.964	-1.903	25.0	-2.426	-2.620	-2.620	-2.711	-2.648	-2.584	-2.240	50.0	0.507	1.301	1.613	2.054	0.755	0.833	1.336
50.0	0.507	1.301	1.613	2.054	2.054	2.054	2.155	50.0	0.592	0.451	0.451	0.755	0.833	0.906	1.336	75.0	4.167	4.760	6.288	6.620	5.522	5.278	5.261
75.0	4.167	4.760	6.288	6.620	6.620	6.620	6.862	75.0	3.865	4.192	4.192	5.522	5.278	4.823	5.261	90.0	8.481	8.722	11.813	5.426	8.602	8.963	9.716
90.0	8.481	8.722	11.813	5.426	9.977	10.267	10.267	90.0	7.820	8.081	8.081	8.602	8.963	9.119	9.716	95.0	11.056	11.500	14.969	11.625	9.696	11.409	12.981
95.0	11.056	11.500	14.969	11.625	13.536	13.633	13.633	95.0	9.310	9.685	9.685	9.696	11.409	12.250	12.981	99.0	16.633	21.633	19.433	14.992	19.300	21.275	18.138
99.0	16.633	21.633	19.433	14.992	18.317	23.300	23.300	99.0	16.700	17.517	17.517	19.300	21.275	19.300	18.138	NO. OF							
NO. OF	202.	202.	202.	202.	202.	202.	202.	NO. OF	398.	398.	398.	398.	398.	398.	398.	Obs.							
Obs.	202.	202.	202.	202.	202.	202.	202.	Obs.	398.	398.	398.	398.	398.	398.	398.								

FOR MONTH OF		JANUARY		INITIAL WIND SPEED		10 TO		20 (M/SEC)		FOR MONTH OF		JANUARY		INITIAL WIND SPEED		10 TO		20 (M/SEC)					
ALTITUDE 21 TO 25 (KM)		25 (KM)		INITIAL DIRECTION		180 TO		225 (DEG)		ALTITUDE 21 TO 25 (KM)		25 (KM)		INITIAL DIRECTION		225 TO		270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.006	-14.125	-9.841	-13.250	-14.417	-14.417	-14.125	1.0	-14.104	-14.403	-14.403	-14.552	-14.849	-14.849	-14.982	5.0	-9.028	-10.625	-9.205	-11.927	-13.191	-13.191	-13.482
5.0	-9.028	-10.625	-9.205	-11.927	-12.083	-12.083	-10.625	5.0	-8.858	-9.273	-9.273	-9.665	-11.118	-11.118	-11.607	10.0	-8.056	-9.464	-8.409	-8.437	-9.722	-8.500	-8.500
10.0	-8.056	-9.464	-8.409	-8.437	-9.722	-8.500	-8.500	10.0	-5.941	-6.526	-6.526	-7.229	-7.608	-7.917	-8.104	25.0	-5.139	-7.589	-6.023	-5.156	-6.606	-4.417	-4.417
25.0	-5.139	-7.589	-6.023	-5.156	-6.606	-4.417	-4.417	25.0	-2.500	-2.775	-2.775	-3.415	-3.326	-3.737	-3.763	50.0	-2.639	-4.250	-2.500	-2.167	-0.417	-1.500	-1.500
50.0	-2.639	-4.250	-2.500	-2.167	-0.417	-1.500	-1.500	50.0	1.271	1.205	1.205	0.281	0.845	0.762	0.755	75.0	-0.208	0.250	1.875	2.813	5.250	3.542	3.542
75.0	-0.208	0.250	1.875	2.813	5.250	3.542	3.542	75.0	5.833	7.500	7.500	6.900	7.845	8.125	8.606	90.0	8.750	5.833	7.500	6.500	10.833	10.833	10.833
90.0	8.750	5.833	7.500	6.500	10.833	10.833	10.833	90.0	8.850	9.830	9.830	10.104	11.354	12.292	11.771	95.0	12.083	8.750	10.625	10.625	13.750	13.750	13.750
95.0	12.083	8.750	10.625	10.625	13.750	13.750	13.750	95.0	16.063	18.208	18.208	21.417	19.813	17.850	18.031	99.0	14.417	13.250	14.125	14.125	18.250	33.250	33.250
99.0	14.417	13.250	14.125	14.125	18.250	33.250	33.250	99.0	16.063	18.208	18.208	21.417	19.813	17.850	18.031	NO. OF							
NO. OF	35.	35.	35.	35.	35.	35.	35.	NO. OF	315.	315.	315.	315.	315.	315.	315.	Obs.							
Obs.	35.	35.	35.	35.	35.	35.	35.	Obs.	315.	315.	315.	315.	315.	315.	315.								

TABLE 1e (cont'd)

FOR MONTH OF JANUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIMITUDE 21 TO 25 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-23.483	-24.090	-22.725	-23.483	-22.725	-25.450		1.0	-8.494	-9.032	-8.871	-9.097	-9.032	-8.958
5.0	-18.450	-20.450	-18.406	-19.225	-19.089	-20.562		5.0	-4.807	-5.161	-4.924	-5.483	-5.161	-4.969
10.0	-14.542	-16.583	-15.562	-16.950	-17.464	-19.109		10.0	-4.233	-4.394	-4.260	-4.305	-4.201	-4.199
25.0	-9.427	-10.804	-11.964	-13.050	-13.795	-16.141		25.0	-2.511	-2.512	-2.267	-1.968	-1.723	-1.889
50.0	-4.674	-5.119	-6.979	-7.656	-9.375	-10.139		50.0	0.383	0.758	1.361	1.925	2.500	2.331
75.0	0.521	0.114	0.114	-3.547	-0.625	-2.212		75.0	3.435	4.565	5.967	6.295	7.568	7.435
90.0	6.611	7.900	7.900	6.278	9.083	4.938		90.0	6.093	9.012	9.802	5.991	12.780	12.019
95.0	9.139	13.063	12.042	11.813	15.563	10.563		95.0	8.602	12.725	13.368	13.736	16.225	14.528
99.0	13.483	20.450	15.450	20.450	20.450	15.450		99.0	14.113	23.225	26.450	20.725	24.113	20.725
NO. OF								NO. OF						
OBS.	91.	91.	91.	91.	91.	91.		OBS.	271.	271.	271.	271.	271.	271.

FOR MONTH OF JANUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIMITUDE 21 TO 25 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-28.750	-29.375	-33.750	-33.750	-33.750	-38.750		1.0	-10.450	-13.989	-14.431	-14.805	-15.450	-14.784
5.0	-24.375	-26.875	-28.750	-24.792	-29.375	-28.750		5.0	-9.112	-9.989	-12.156	-13.071	-13.310	-12.868
10.0	-21.250	-24.167	-23.750	-23.750	-26.250	-24.643		10.0	-7.975	-9.021	-9.800	-10.905	-11.143	-10.474
25.0	-13.750	-16.875	-17.187	-20.625	-22.679	-21.964		25.0	-4.801	-6.117	-7.318	-7.696	-7.704	-8.068
50.0	-7.917	-11.562	-11.786	-14.500	-17.917	-18.409		50.0	-2.216	-2.266	-3.333	-3.475	-3.362	-4.375
75.0	-0.417	-6.250	-7.321	-4.062	-12.250	-15.568		75.0	0.985	2.115	1.250	0.978	1.548	2.625
90.0	8.125	2.500	-2.500	2.500	-7.500	-11.875		90.0	5.364	6.846	8.176	8.143	8.765	9.450
95.0	9.688	4.583	3.750	8.750	-5.417	-10.312		95.0	9.500	10.750	11.813	12.167	12.722	14.929
99.0	18.750	8.750	8.750	13.750	8.750	8.750		99.0	22.950	25.900	17.725	22.950	20.900	25.450
NO. OF								NO. OF						
OBS.	25.	25.	25.	25.	25.	25.		OBS.	182.	182.	182.	182.	182.	182.

TABLE 1e (cont'd)

FOR MONTH OF				JANUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 21 TO 25 (KM)				JANUARY				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-26.400	-19.680	-23.400	-23.400	-23.400	-19.622		1.0	-6.600	-9.067	-6.680	-6.680	-7.200	-4.984	
5.0	-22.000	-16.400	-19.500	-16.500	-19.625	-19.111		5.0	-4.840	-5.333	-4.925	-4.889	-4.571	-4.395	
10.0	-17.000	-16.800	-16.167	-14.917	-16.625	-16.222		10.0	-4.280	-4.316	-4.225	-3.952	-3.905	-3.658	
25.0	-10.000	-10.000	-14.444	-12.917	-15.625	-15.556		25.0	-2.600	-2.105	-2.125	-0.741	-1.905	-1.447	
50.0	-4.266	-4.266	-10.000	-9.444	-12.083	-12.667		50.0	0.217	1.250	1.196	2.553	1.622	2.500	
75.0	2.000	2.000	-3.750	-3.000	-6.250	-10.000		75.0	3.261	4.167	4.239	6.136	5.789	6.964	
90.0	8.000	11.333	6.000	3.000	2.000	-2.750		90.0	5.500	7.588	7.662	9.955	10.400	9.964	
95.0	12.000	14.000	6.000	6.000	6.000	-0.750		95.0	9.000	9.235	9.529	13.375	13.200	13.375	
99.0	23.400	16.400	9.600	9.200	9.200	13.400		99.0	24.400	19.400	17.200	19.700	19.400	18.133	
NO. OF								NO. OF							
OBS.	32.	32.	32.	32.	32.	32.		OBS.	112.	112.	112.	112.	112.	112.	

TABLE IIa

February, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			0 TO 45 (DEG)			1 TO 5 (KM)			1 TO 5 (KM)			90 TO 135 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	60	72			LEVELS	12	24	36	48	60	72		
1.0	-9.300	-9.300	-8.600	-4.800	-4.720	-3.600			1.0	-7.650	-7.650	-7.650	-4.853	-7.650	-4.862		
5.0	-6.500	-6.500	-4.667	-4.000	-3.600	0.143			5.0	-4.437	-4.386	-4.623	-4.266	-4.550	-4.309		
10.0	-4.692	-4.333	-3.500	-3.000	-2.200	0.643			10.0	-3.458	-3.318	-3.972	-3.531	-3.767	-3.618		
25.0	-3.077	-0.833	0.	0.	1.111	2.143			25.0	-0.521	-0.114	-2.014	-1.328	-1.417	-1.544		
50.0	-0.385	2.500	4.375	3.889	5.000	4.643			50.0	2.188	3.594	2.250	2.083	3.125	2.708		
75.0	3.750	5.833	8.333	9.125	8.500	10.833			75.0	4.635	7.788	7.841	5.625	8.021	8.472		
90.0	7.750	9.333	15.333	12.000	11.500	14.333			90.0	8.313	11.300	11.917	5.150	11.643	13.583		
95.0	9.500	13.000	17.667	14.333	13.258	16.500			95.0	9.781	13.650	13.875	11.083	13.321	16.083		
99.0	13.600	18.600	19.533	28.600	14.650	19.300			99.0	17.650	17.650	22.650	14.217	14.664	19.217		
NO. OF									OBS.								
28.			28.			28.			47.			47.			47.		
FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			45 TO 90 (DEG)			1 TO 5 (KM)			1 TO 5 (KM)			90 TO 135 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	60	72			LEVELS	12	24	36	48	60	72		
1.0	-9.300	-9.300	-8.600	-8.600	-6.600	-6.600			1.0	-9.733	-9.886	-9.867	-14.600	-9.800	-9.867		
5.0	-6.500	-6.500	-4.600	-4.800	-4.667	-4.800			5.0	-8.667	-9.429	-9.333	-13.000	-9.000	-9.333		
10.0	-4.600	-4.200	-3.200	-4.100	-3.500	-4.100			10.0	-7.333	-8.857	-8.667	-11.000	-8.000	-8.667		
25.0	-2.500	0.	0.556	-2.000	0.	-2.000			25.0	-4.444	-7.143	-6.667	-6.667	-5.000	-6.667		
50.0	1.111	2.333	4.444	2.500	3.182	3.000			50.0	-2.222	-3.333	-3.333	-3.125	-2.500	-2.500		
75.0	5.000	4.667	7.727	9.000	8.000	8.125			75.0	0.	5.000	0.	-0.625	0.	2.000		
90.0	8.000	10.500	9.636	15.333	12.750	11.500			90.0	7.333	9.000	6.000	3.500	4.000	4.400		
95.0	9.000	14.000	13.000	17.667	14.500	13.250			95.0	8.667	11.000	8.000	6.000	6.000	6.000		
99.0	9.800	23.600	18.600	19.533	28.600	14.650			99.0	9.733	14.200	9.600	9.200	9.200	9.200		
NO. OF									OBS.								
28.			28.			28.			16.			16.			16.		

TABLE IIa (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT		
LEVELS	12	24	36	48	60	72			LEVELS	12	24	36	48	60	72		
1.0	-6.925	-6.567	-6.925	-6.925	-9.140	-7.950			1.0	-6.100	-6.100	-9.240	-6.460	-9.240	-6.914		
5.0	-4.925	-4.705	-4.952	-4.946	-5.700	-4.641			5.0	-4.591	-4.633	-6.200	-4.750	-6.200	-4.929		
10.0	-3.850	-3.727	-4.256	-4.207	-4.333	-3.969			10.0	-3.727	-3.857	-4.422	-4.019	-4.333	-4.024		
25.0	-0.625	-0.795	-2.177	-1.983	-1.944	-1.953			25.0	-1.136	-1.331	-1.869	-1.827	-1.410	-1.310		
50.0	2.159	2.727	1.936	2.063	2.115	1.607			50.0	2.168	2.300	2.763	2.568	2.872	3.375		
75.0	4.602	6.806	6.456	7.206	6.711	6.042			75.0	5.333	7.115	6.086	7.776	6.000	9.167		
90.0	8.357	11.000	12.200	12.429	10.250	12.429			90.0	9.133	12.436	12.722	12.833	14.500	14.450		
95.0	9.893	14.071	14.350	15.700	12.936	16.750			95.0	11.714	14.813	14.633	16.714	17.462	16.375		
99.0	13.925	20.700	18.567	19.140	15.700	23.567			99.0	16.700	22.467	21.200	23.700	19.600	26.700		
NO. OF									NO. OF								
OBS.	86.	86.	86.	86.	86.	86.			OBS.	152.	152.	152.	152.	152.	152.		

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT		
LEVELS	12	24	36	48	60	72			LEVELS	12	24	36	48	60	72		
1.0	-13.500	-9.786	-9.786	-13.500	-9.750	-13.500			1.0	-11.875	-14.306	-14.306	-14.107	-13.750	-13.956		
5.0	-9.750	-6.929	-6.929	-9.563	-6.750	-9.563			5.0	-6.750	-11.526	-11.526	-10.536	-9.764	-9.960		
10.0	-9.000	-7.857	-7.857	-6.333	-7.500	-6.333			10.0	-6.912	-9.417	-9.435	-9.052	-6.707	-6.952		
25.0	-6.750	-4.792	-4.722	-4.806	-4.375	-4.687			25.0	-3.576	-6.292	-6.411	-5.819	-5.474	-5.927		
50.0	-3.000	-1.667	-0.556	-1.923	-1.250	-0.			50.0	0.076	-0.946	-1.121	-1.214	-1.042	-1.890		
75.0	2.500	4.375	3.250	1.369	3.750	5.625			75.0	4.961	5.659	4.760	5.375	5.962	6.319		
90.0	11.667	9.000	7.500	3.669	6.750	11.667			90.0	11.250	13.036	11.250	13.167	13.409	13.056		
95.0	14.167	17.500	16.250	4.722	11.250	14.167			95.0	13.482	17.750	16.456	15.625	16.719	16.964		
99.0	16.500	23.500	19.250	6.500	14.250	16.500			99.0	16.875	23.436	23.750	19.792	19.644	21.675		
NO. OF									NO. OF								
OBS.	30.	30.	30.	30.	30.	30.			OBS.	125.	125.	125.	125.	125.	125.		

TABLE IIa (cont'd)

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FEBRUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-18.300	-19.150	-24.150	-24.433	-24.433	-23.300		1.0	-12.800	-14.456	-14.431	-14.383	-14.608	-15.050	
5.0	-13.250	-15.750	-20.750	-22.167	-22.167	-19.125		5.0	-8.920	-10.056	-11.385	-11.083	-11.440	-12.452	
10.0	-9.667	-13.250	-18.250	-19.714	-19.714	-17.000		10.0	-6.940	-8.600	-9.100	-9.099	-9.284	-9.709	
25.0	-5.417	-8.437	-12.917	-16.071	-16.071	-13.542		25.0	-3.667	-4.622	-4.913	-5.432	-5.909	-5.949	
50.0	-1.000	-3.636	-7.500	-10.000	-10.625	-10.000		50.0	-0.367	-0.462	-0.609	-0.158	-0.677	-0.842	
75.0	4.063	1.250	-2.083	-3.750	2.083	-2.083		75.0	4.889	6.311	7.353	7.667	7.547	7.755	
90.0	9.500	9.500	6.000	6.000	7.667	8.000		90.0	9.159	12.323	14.629	14.906	15.077	14.795	
95.0	13.250	16.500	8.833	12.167	10.750	13.250		95.0	11.708	16.067	18.440	18.429	18.885	18.370	
99.0	18.300	23.300	13.300	14.433	14.150	18.300		99.0	15.067	22.525	23.655	23.911	24.183	27.600	
NO. OF	34.	34.	34.	34.	34.	34.		NO. OF	396.	396.	396.	396.	396.	396.	
OBS.	234.	234.	234.	234.	234.	234.		OBS.	197.	197.	197.	197.	197.	197.	

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FEBRUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS	PERCENT	ELAPSED TIME IN HOURS
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-8.329	-7.075	-8.050	-8.050	-8.329	-7.660		1.0	-18.030	-18.769	-23.593	-23.358	-24.307	-24.307	
5.0	-4.742	-4.425	-4.500	-4.555	-4.557	-4.521		5.0	-11.536	-14.681	-18.982	-19.083	-19.630	-19.644	
10.0	-4.099	-3.552	-3.474	-3.641	-3.453	-3.686		10.0	-9.198	-12.983	-15.464	-16.738	-17.660	-17.750	
25.0	-2.170	-0.933	-0.395	-0.898	-0.142	-1.179		25.0	-6.120	-8.799	-11.182	-11.629	-11.875	-12.757	
50.0	1.377	2.987	3.857	4.352	4.750	3.962		50.0	-1.681	-3.250	-4.808	-4.932	-5.183	-6.187	
75.0	5.759	7.371	8.935	9.440	9.703	10.221		75.0	4.375	4.020	2.554	2.452	1.806	1.597	
90.0	8.893	11.211	14.917	15.200	16.556	15.765		90.0	9.685	9.646	9.816	9.794	10.125	9.553	
95.0	9.937	14.289	19.346	19.100	19.806	19.206		95.0	12.911	13.396	14.575	13.813	14.229	14.528	
99.0	14.811	21.650	24.788	24.757	24.811	24.757		99.0	17.538	21.717	22.575	28.383	23.788	20.450	
NO. OF	234.	234.	234.	234.	234.	234.		NO. OF	197.	197.	197.	197.	197.	197.	
OBS.	234.	234.	234.	234.	234.	234.		OBS.	197.	197.	197.	197.	197.	197.	

TABLE IIa (cont'd)

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-19.350	-28.350	-28.350	-28.350	-28.900	-28.350	-31.700	1.0	-13.540	-15.133	-15.133	-16.350	-14.761	-14.467	-15.133
5.0	-14.350	-22.633	-24.071	-24.700	-24.409	-24.409	-24.612	5.0	-9.558	-11.375	-11.607	-12.000	-11.222	-12.583	
10.0	-12.700	-19.200	-21.714	-21.400	-22.909	-22.909	-22.750	10.0	-8.154	-9.239	-9.246	-9.544	-9.261	-9.817	
25.0	-8.676	-14.318	-14.500	-14.500	-15.625	-17.500		25.0	-4.633	-5.970	-5.656	-6.324	-6.087	-6.167	
50.0	-3.889	-7.941	-8.929	-9.062	-10.789	-12.250		50.0	-2.200	-2.391	-1.717	-1.605	-1.667	-1.118	
75.0	1.136	-1.389	-2.500	-3.542	-2.250	-6.250		75.0	0.593	1.636	3.362	3.917	4.783	6.310	
90.0	7.333	7.000	5.500	3.500	5.400	-0.889		90.0	4.303	6.545	8.875	11.143	13.000	13.200	
95.0	12.833	9.750	9.625	12.125	8.700	4.250		95.0	6.778	9.864	13.083	14.619	16.929	17.313	
99.0	26.700	31.700	26.700	26.700	36.700	16.700		99.0	10.200	17.600	19.425	21.350	22.567	22.567	
NO. OF								NO. OF							
OBS.	66.	66.	66.	66.	66.	66.	66.	OBS.	292.	292.	292.	292.	292.	292.	292.

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-8.614	-9.030	-8.614	-8.922	-8.922	-8.922	-8.922	1.0	-17.100	-23.067	-19.956	-24.033	-23.840	-24.033	
5.0	-4.845	-5.150	-4.750	-4.930	-4.924	-4.905		5.0	-13.944	-17.667	-18.667	-20.167	-19.778	-20.167	
10.0	-4.287	-4.319	-3.852	-3.960	-3.870	-3.595		10.0	-12.333	-14.316	-17.056	-18.250	-18.167	-18.444	
25.0	-2.615	-2.210	-1.157	-1.050	-0.707	0.298		25.0	-8.714	-9.839	-13.148	-13.704	-13.889	-14.194	
50.0	0.193	1.325	3.103	5.403	4.286	5.965		50.0	-4.531	-5.161	-7.931	-8.500	-8.261	-9.318	
75.0	3.344	5.872	8.011	9.315	10.461	10.809		75.0	0.	-1.111	-2.391	-2.647	-1.667	-2.619	
90.0	5.900	9.256	12.762	14.662	14.289	15.214		90.0	4.833	4.700	5.222	5.250	6.000	5.333	
95.0	8.325	11.833	15.167	16.773	16.935	18.679		95.0	8.250	8.714	8.444	8.875	10.333	10.250	
99.0	12.650	20.150	19.478	23.614	22.650	25.150		99.0	14.600	13.550	19.200	17.100	19.600	19.200	
NO. OF								NO. OF							
OBS.	194.	194.	194.	194.	194.	194.	194.	OBS.	116.	116.	116.	116.	116.	116.	116.



TABLE IIa (cont'd)

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FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72	PERCENT	12	24
LEVELS	12	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24
1.0	-19.203	-23.925	-32.850	-29.283	-29.570	1.0	-9.370	-4.869	-6.850	-6.850	-6.850	-4.606	1.0	-9.370	-4.869
5.0	-16.417	-19.950	-23.562	-26.417	-27.850	5.0	-6.850	-4.344	-4.232	-3.806	-4.023	-3.031	5.0	-6.850	-4.344
10.0	-11.750	-17.700	-20.875	-24.187	-25.700	10.0	-4.740	-3.687	-3.107	-2.056	-2.591	-1.062	10.0	-4.740	-3.687
25.0	-7.125	-11.875	-15.208	-20.156	-20.208	25.0	-2.850	-1.719	0.188	1.307	1.442	2.981	25.0	-2.850	-1.719
50.0	-3.375	-6.136	-7.187	-10.750	-12.045	50.0	0.250	1.630	4.125	4.886	6.711	7.500	50.0	0.250	1.630
75.0	-0.887	-2.034	-2.411	-6.146	-7.159	75.0	2.875	5.096	7.794	9.631	11.083	12.019	75.0	2.875	5.096
90.0	3.083	3.500	-0.107	-2.337	-3.300	90.0	4.450	8.731	9.932	12.643	14.233	16.417	90.0	4.450	8.731
95.0	4.875	7.313	4.625	-0.821	-1.150	95.0	4.975	9.942	14.750	14.893	16.063	19.042	95.0	4.975	9.942
99.0	8.925	9.463	8.925	2.850	8.925	99.0	8.950	16.850	21.850	18.950	19.212	23.425	99.0	8.950	16.850
NO. OF OBS.	43.	43.	43.	43.	43.	NO. OF OBS.	63.	63.	63.	63.	63.	63.	NO. OF OBS.	63.	63.

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 40 TO 50 (M/SEC)				FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTIMETER 1 TO 5 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72	PERCENT	12	24
LEVELS	12	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24
1.0	-24.250	-34.250	-29.625	-29.250	-34.250	1.0	-14.362	-14.362	-14.575	-14.490	-14.681	-14.362	1.0	-14.362	-14.362
5.0	-21.250	-31.250	-26.125	-26.250	-31.250	5.0	-11.812	-11.812	-12.875	-12.450	-13.406	-11.812	5.0	-11.812	-11.812
10.0	-17.500	-19.167	-26.250	-23.750	-26.750	10.0	-9.500	-9.761	-10.750	-9.969	-11.812	-9.577	10.0	-9.500	-9.761
25.0	-13.250	-15.417	-20.625	-18.750	-24.062	25.0	-6.023	-6.098	-8.466	-7.578	-8.417	-6.635	25.0	-6.023	-6.098
50.0	-7.500	-10.625	-11.250	-13.125	-18.750	50.0	-2.981	-5.326	-5.568	-3.500	-3.214	-2.344	50.0	-2.981	-5.326
75.0	-1.750	-4.375	-4.375	-7.917	-9.687	75.0	-0.529	-0.982	1.625	1.607	2.292	2.917	75.0	-0.529	-0.982
90.0	6.250	6.250	1.250	-2.500	-6.875	90.0	3.063	3.500	9.900	7.900	4.417	7.786	90.0	3.063	3.500
95.0	8.125	8.125	3.125	1.250	-5.937	95.0	4.656	5.750	9.450	10.750	5.750	9.607	95.0	4.656	5.750
99.0	9.625	9.625	4.625	4.250	-5.107	99.0	8.725	9.150	12.450	14.150	9.150	13.725	99.0	8.725	9.150
NO. OF OBS.	15.	15.	15.	15.	15.	NO. OF OBS.	51.	51.	51.	51.	51.	51.	NO. OF OBS.	51.	51.

TABLE IIa (cont'd)

FOR MONTH OF		FEBRUARY		INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)			
		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	
1.0	-24.400	-19.400	-14.800	-14.850	-19.400	-14.800	
5.0	-22.000	-17.000	-14.000	-14.250	-17.000	-14.000	
10.0	-19.000	-14.667	-13.000	-13.500	-14.500	-13.000	
25.0	-10.000	-11.667	-10.000	-11.250	-10.000	-10.000	
50.0	-5.000	-8.000	-7.000	-8.333	-7.000	-5.000	
75.0	-2.000	-5.000	-3.333	-5.833	-3.750	-2.000	
90.0	-0.200	-0.500	-0.333	-1.000	-1.500	-0.200	
95.0	2.000	2.000	2.000	7.000	-0.750	7.000	
99.0	4.400	4.400	4.400	9.400	-0.150	9.400	
NO. OF	12.	12.	12.	12.	12.	12.	
OBS.	12.	12.	12.	12.	12.	12.	

TABLE I Ib

FOR MONTH OF FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 25 (M/SEC)				
ALTIMITUDE 6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 255 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	72
1.0	-4.617	-4.662	-4.617	-4.617	-4.617	-4.450	1.0	-9.517	-13.550	-13.550	-13.550	-13.550	-9.275
5.0	-4.083	-4.312	-4.083	-4.083	-4.083	-2.250	5.0	-7.583	-9.550	-8.875	-8.875	-8.875	-6.375
10.0	-3.167	-3.625	-3.167	-3.167	-3.167	0.125	10.0	-5.167	-8.100	-5.250	-5.250	-5.250	-3.875
25.0	-0.417	-1.562	-0.417	-0.417	-0.417	2.188	25.0	-0.750	0.250	1.042	-0.750	0.313	2.083
50.0	2.500	3.750	3.125	4.167	5.833	6.250	50.0	5.682	6.563	9.167	8.214	12.083	13.125
75.0	5.625	10.625	10.625	8.750	20.625	13.125	75.0	8.977	11.750	16.250	13.958	21.750	25.750
90.0	9.750	14.750	14.750	14.500	24.750	24.500	90.0	15.250	17.750	25.167	26.833	35.167	30.500
95.0	12.250	17.250	17.250	17.250	37.250	27.250	95.0	18.875	27.750	27.583	29.250	37.583	36.375
99.0	14.450	19.450	19.450	19.450	39.450	29.450	99.0	28.550	33.550	29.517	33.550	39.517	39.275
NO. OF OBS.	11.	11.	11.	11.	11.	11.	NO. OF OBS.	29.	29.	29.	29.	29.	29.

FOR MONTH OF FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 25 (M/SEC)			INITIAL WIND SPEED 25 TO 30 (M/SEC)				
ALTIMITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 255 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	72
1.0	-9.100	-4.700	-4.700	-4.700	-4.700	-4.550	1.0	-19.150	-19.575	-19.575	-19.150	-19.150	-9.787
5.0	-5.500	-3.500	-3.500	-3.500	-3.500	-2.750	5.0	-15.750	-17.875	-15.750	-15.750	-15.750	-8.937
10.0	-4.333	-2.000	-2.000	-2.000	-2.000	-0.500	10.0	-11.500	-15.750	-13.833	-13.250	-13.250	-7.875
25.0	-2.083	1.071	1.500	2.500	4.167	3.125	25.0	-7.187	-4.583	-8.750	-6.875	-6.875	-4.583
50.0	1.250	4.286	5.556	7.143	8.333	8.750	50.0	2.500	2.500	10.500	7.500	4.375	7.500
75.0	4.063	8.500	8.056	13.625	14.167	13.500	75.0	9.583	11.875	14.750	14.583	14.583	21.875
90.0	8.000	12.000	9.556	14.000	17.750	21.000	90.0	15.750	20.750	20.750	17.875	20.750	28.250
95.0	10.500	13.500	15.500	15.500	18.875	25.500	95.0	17.875	22.875	22.875	18.937	22.875	30.750
99.0	14.100	14.700	19.100	19.100	19.775	29.100	99.0	19.575	24.575	24.575	19.787	24.575	34.150
NO. OF OBS.	18.	18.	18.	18.	18.	18.	NO. OF OBS.	17.	17.	17.	17.	17.	17.

TABLE IIb (cont'd)

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMETER 6 TO 10 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12				24				36			
1.0				-9.725				-9.503			
5.0				-8.625				-7.513			
10.0				-7.250				-5.026			
25.0				-4.062				-1.736			
50.0				-0.625				2.262			
75.0				6.250				9.875			
90.0				14.500				14.672			
95.0				17.250				21.375			
99.0				19.450				20.550			
NO. OF				OBS.				OBS.			
11.				11.				189.			
OBS.				11.				189.			
FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTIMETER 6 TO 10 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12				24				36			
1.0				-4.889				-13.750			
5.0				-4.443				-8.966			
10.0				-3.886				-6.379			
25.0				-2.216				-3.011			
50.0				0.735				1.267			
75.0				4.338				6.727			
90.0				7.833				10.147			
95.0				9.194				11.957			
99.0				12.550				15.455			
NO. OF				OBS.				OBS.			
49.				49.				300.			
OBS.				49.				300.			

TABLE IIB (cont'd)

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 50 TO 60 (M/SEC)						
ALTIMITUDE 6 TO 10 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-18.450	-20.700	-23.925	-23.925	-24.140	-28.567		1.0	-34.450	-34.725	-38.612	-38.890	-38.890	-39.383
5.0	-12.567	-14.431	-16.542	-16.227	-17.567	-18.806		5.0	-19.450	-26.812	-29.083	-34.450	-34.725	-36.917
10.0	-9.283	-11.966	-13.037	-13.242	-13.821	-14.875		10.0	-14.450	-18.250	-23.450	-28.625	-31.950	-33.250
25.0	-4.789	-5.855	-6.603	-7.500	-7.500	-7.880		25.0	-8.082	-10.096	-16.953	-19.205	-20.125	-21.042
50.0	-0.482	1.395	0.750	0.641	1.196	-0.213		50.0	-2.130	-4.265	-6.912	-8.167	-10.577	-12.763
75.0	6.944	8.616	9.808	9.934	10.565	10.643		75.0	4.514	4.417	5.104	3.021	1.042	-2.292
90.0	13.080	15.154	18.727	17.625	18.500	17.952		90.0	9.967	9.967	12.450	13.625	11.357	9.950
95.0	16.958	21.214	23.955	24.786	23.500	24.750		95.0	17.417	17.450	17.250	18.179	16.125	13.893
99.0	27.850	30.350	30.233	34.070	31.900	37.617		99.0	27.225	34.725	29.725	27.225	24.817	22.225
NO. OF								NO. OF						
OBS.	286.	286.	286.	286.	286.	286.		OBS.	111.	111.	111.	111.	111.	111.

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 40 TO 50 (M/SEC)				INITIAL WIND SPEED 60 TO 70 (M/SEC)						
ALTIMITUDE 6 TO 10 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-29.100	-29.900	-29.157	-33.033	-33.820	-33.033		1.0	-38.550	-39.275	-39.586	-39.736	-39.793	-39.777
5.0	-14.591	-25.056	-23.964	-25.071	-26.937	-26.864		5.0	-28.500	-36.375	-37.929	-38.682	-38.964	-38.885
10.0	-9.907	-17.818	-20.071	-21.400	-22.400	-23.381		10.0	-23.667	-33.500	-35.857	-37.364	-37.929	-37.769
25.0	-6.105	-9.191	-11.979	-13.690	-14.236	-15.795		25.0	-12.083	-22.500	-28.214	-30.625	-29.583	-29.583
50.0	-1.538	-1.579	-2.625	-4.286	-5.000	-6.184		50.0	-3.333	-9.375	-15.714	-16.429	-18.571	-19.091
75.0	6.103	6.705	8.875	7.262	5.375	2.206		75.0	3.214	1.071	-0.500	-3.357	-8.750	-11.562
90.0	12.583	14.550	17.563	17.000	16.500	16.000		90.0	8.875	10.250	8.200	5.500	3.667	-5.571
95.0	18.643	19.550	22.214	20.125	20.917	24.357		95.0	11.833	13.875	12.750	15.250	10.250	0.500
99.0	24.871	34.100	37.275	37.275	34.550	29.888		99.0	17.100	23.550	22.100	22.100	22.100	17.100
NO. OF								NO. OF						
OBS.	218.	218.	218.	218.	218.	218.		OBS.	58.	58.	58.	58.	58.	58.

TABLE IIb (cont'd)

FOR MONTH OF FEBRUARY							INITIAL WIND SPEED 70 TO 80 (M/SEC)							FOR MONTH OF FEBRUARY							INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
PERCENT							PERCENT							PERCENT							PERCENT						
LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72						
1.0 -38.950 -38.950 -39.475 -39.475 -38.950 -39.475							1.0 -9.524 -12.500 -13.000 -10.000 -10.000 -9.412							1.0 -14.075 -14.537 -18.150 -20.867 -19.200 -14.904							1.0 -9.524 -12.500 -13.000 -10.000 -10.000 -9.412						
5.0 -24.875 -34.750 -37.375 -37.375 -34.750 -37.375							5.0 -7.619 -8.500 -8.437 -6.923 -6.667 -7.039							5.0 -9.485 -11.437 -13.391 -13.476 -13.391 -12.920							5.0 -7.619 -8.500 -8.437 -6.923 -6.667 -7.039						
10.0 -22.250 -29.500 -34.500 -29.875 -29.500 -29.750							10.0 -5.238 -6.000 -5.312 -4.419 -4.250 -4.559							10.0 -7.606 -9.204 -10.696 -10.524 -10.696 -10.440							10.0 -5.238 -6.000 -5.312 -4.419 -4.250 -4.559						
25.0 -13.437 -13.437 -24.583 -25.937 -22.187 -19.583							25.0 -2.899 -2.500 -2.157 -0.930 -0.500 -0.147							25.0 -3.936 -5.408 -5.641 -5.625 -5.750 -4.896							25.0 -2.899 -2.500 -2.157 -0.930 -0.500 -0.147						
50.0 -3.125 -6.875 -13.750 -15.625 -14.167 -10.833							50.0 0.877 2.857 3.415 4.667 5.606 7.439							50.0 -0.838 -1.027 -0.403 1.277 0.606 2.083							50.0 0.877 2.857 3.415 4.667 5.606 7.439						
75.0 3.438 4.375 -1.250 -3.125 -5.417 -1.562							75.0 5.395 8.200 10.652 11.667 13.281 13.919							75.0 4.464 6.607 8.000 9.837 10.192 11.324							75.0 5.395 8.200 10.652 11.667 13.281 13.919						
90.0 8.167 12.250 4.833 8.167 9.750 4.750							90.0 9.342 14.000 20.000 20.833 19.750 20.909							90.0 9.875 13.500 15.917 16.455 17.652 17.542							90.0 9.342 14.000 20.000 20.833 19.750 20.909						
95.0 9.917 14.875 9.750 9.917 14.750 14.750							95.0 12.500 20.714 25.000 25.000 24.500 25.833							95.0 14.833 17.556 21.625 22.556 21.600 20.375							95.0 12.500 20.714 25.000 25.000 24.500 25.833						
99.0 18.950 18.950 18.950 18.950 18.950 23.950							99.0 20.000 30.000 31.667 33.750 36.667 33.750							99.0 21.900 24.600 29.520 29.600 29.637 27.520							99.0 20.000 30.000 31.667 33.750 36.667 33.750						
NO. OF OBS. 21. 21. 21. 21. 21. 21.							NO. OF OBS. 21. 21. 21. 21. 21. 21.							NO. OF OBS. 248. 248. 248. 248. 248. 248.							NO. OF OBS. 200. 200. 200. 200. 200. 200.						

FOR MONTH OF FEBRUARY							INITIAL WIND SPEED 0 TO 10 (M/SEC)							FOR MONTH OF FEBRUARY							INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)							ALTITUDE 6 TO 10 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
PERCENT							PERCENT							PERCENT							PERCENT						
LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72						
1.0 -9.075 -9.383 -9.075 -8.150 -4.632 -4.630							1.0 -14.075 -14.537 -18.150 -20.867 -19.200 -14.904							1.0 -9.075 -9.383 -9.075 -8.150 -4.632 -4.630							1.0 -14.075 -14.537 -18.150 -20.867 -19.200 -14.904						
5.0 -5.375 -6.917 -5.375 -3.937 -3.458 -3.150							5.0 -9.485 -11.437 -13.391 -13.476 -13.391 -12.920							5.0 -5.375 -6.917 -5.375 -3.937 -3.458 -3.150							5.0 -9.485 -11.437 -13.391 -13.476 -13.391 -12.920						
10.0 -4.292 -4.300 -2.875 -1.625 -1.917 -1.300							10.0 -7.606 -9.204 -10.696 -10.524 -10.696 -10.440							10.0 -4.292 -4.300 -2.875 -1.625 -1.917 -1.300							10.0 -7.606 -9.204 -10.696 -10.524 -10.696 -10.440						
25.0 -1.979 0.568 4.063 1.771 2.321 3.036							25.0 -3.936 -5.408 -5.641 -5.625 -5.750 -4.896							25.0 -1.979 0.568 4.063 1.771 2.321 3.036							25.0 -3.936 -5.408 -5.641 -5.625 -5.750 -4.896						
50.0 1.875 4.773 7.833 5.750 6.438 9.062							50.0 -0.838 -1.027 -0.403 1.277 0.606 2.083							50.0 1.875 4.773 7.833 5.750 6.438 9.062							50.0 -0.838 -1.027 -0.403 1.277 0.606 2.083						
75.0 6.094 8.646 12.292 10.750 14.821 17.679							75.0 4.464 6.607 8.000 9.837 10.192 11.324							75.0 6.094 8.646 12.292 10.750 14.821 17.679							75.0 4.464 6.607 8.000 9.837 10.192 11.324						
90.0 9.562 12.300 17.300 21.500 19.417 23.833							90.0 9.875 13.500 15.917 16.455 17.652 17.542							90.0 9.562 12.300 17.300 21.500 19.417 23.833							90.0 9.875 13.500 15.917 16.455 17.652 17.542						
95.0 11.917 14.150 19.150 30.375 25.750 26.917							95.0 14.833 17.556 21.625 22.556 21.600 20.375							95.0 11.917 14.150 19.150 30.375 25.750 26.917							95.0 14.833 17.556 21.625 22.556 21.600 20.375						
99.0 14.383 18.150 33.150 34.075 38.150 29.383							99.0 21.900 24.600 29.520 29.600 29.637 27.520							99.0 14.383 18.150 33.150 34.075 38.150 29.383							99.0 21.900 24.600 29.520 29.600 29.637 27.520						
NO. OF OBS. 37. 37. 37. 37. 37. 37.							NO. OF OBS. 248. 248. 248. 248. 248. 248.							NO. OF OBS. 37. 37. 37. 37. 37. 37.							NO. OF OBS. 248. 248. 248. 248. 248. 248.						

TABLE IIb (cont'd)

FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 50 TO 60 (M/SEC)			
ALTITUDE 6 TO 10 (KM)				6 TO 10 (KM)				6 TO 10 (KM)				6 TO 10 (KM)			

TABLE IIB (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			30 TO			40 (M/SEC)		
ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			315 TO 360 (DEG)			(DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT			ELAPSED TIME IN HOURS											
LEVELS			12	24	36	48	60	72				60	72	
1.0			-9.525	-9.683	-14.050	-9.050	-14.050	-4.525				-14.833	-14.875	-14.875
5.0			-7.625	-8.417	-10.250	-5.250	-10.250	-2.625				-14.167	-14.375	-14.375
10.0			-5.250	-6.833	-5.500	-2.750	-0.500	-0.250				-13.333	-13.750	-13.750
25.0			-3.854	-3.750	-0.417	2.188	3.438	5.938				-10.833	-11.875	-11.875
50.0			-1.875	-0.357	5.357	8.125	9.375	12.500				-7.500	-7.778	-6.333
75.0			0.313	3.542	8.750	14.063	23.313	25.625				-4.167	-6.389	6.250
90.0			3.875	7.750	11.833	27.625	28.875	32.750				-1.667	-5.556	10.000
95.0			5.250	10.250	13.417	28.812	30.250	35.250				-0.833	-5.278	12.500
99.0			9.050	14.050	14.683	29.762	34.050	39.050				-0.167	-5.056	14.500
NO. OF														
OBS.			19.	19.	19.	19.	19.	19.				10.	10.	10.
FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			20 TO 30 (M/SEC)					
ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			315 TO 360 (DEG)					
						WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT			ELAPSED TIME IN HOURS											
LEVELS			12	24	36	48	60	72						
1.0			-14.175	-14.587	-19.175	-23.350	-19.175	-19.175				-15.875	-15.875	-15.875
5.0			-10.875	-12.937	-15.875	-16.750	-15.875	-15.875				-11.750	-11.750	-11.750
10.0			-9.071	-10.875	-9.700	-9.700	-4.896	-3.594				-1.250	-1.250	-1.250
25.0			-5.536	-5.750	-4.896	-4.896	-1.458	2.083				8.393	8.393	8.393
50.0			-2.321	-1.875	-1.458	-1.458	3.393	5.938				16.167	16.167	16.167
75.0			0.972	3.125	3.393	5.938	8.393	9.844				25.875	25.875	25.875
90.0			3.722	7.700	8.375	12.125	16.167	16.750				29.175	29.175	29.175
95.0			4.639	9.350	10.875	14.188	18.917	25.875						
99.0			8.350	18.350	14.175	18.350	23.350	29.175						
NO. OF														
OBS.			33.	33.	33.	33.	33.	33.						



TABLE IIC

February, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 30 TO 40 (M/SEC)				
ALTIITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)				
				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72		24	36	48	60	72
1.0	-8.887	-9.110	-12.775	-13.517	-12.775	-15.550		-17.600	-16.000	-17.600	-16.500	-19.600
5.0	-4.868	-5.550	-5.917	-8.964	-7.958	-7.958		-12.812	-12.500	-11.111	-12.353	-13.750
10.0	-3.559	-4.071	-3.974	-5.786	-4.750	-4.550		-8.929	-9.464	-7.917	-9.231	-10.750
25.0	0.223	-0.893	-0.461	0.568	-1.042	2.125		-1.875	-3.103	-2.556	-3.000	-3.571
50.0	4.196	5.139	7.167	9.808	8.750	9.853		4.688	5.500	5.741	5.333	5.135
75.0	8.550	11.188	13.125	17.396	19.861	21.375		10.000	12.206	12.059	12.571	13.429
90.0	13.613	14.525	18.643	23.944	28.417	35.056		16.944	19.250	15.444	19.750	21.563
95.0	17.550	18.188	24.250	28.188	34.250	37.528		20.500	23.462	24.167	25.000	25.833
99.0	22.775	30.550	32.775	35.550	38.887	39.506		26.500	31.000	32.667	37.000	36.000
NO. OF							NO. OF					
OBS.	89.	89.	89.	89.	89.	89.	OBS.	240.	240.	240.	240.	240.

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 40 TO 50 (M/SEC)				
ALTIITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)				
				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72		24	36	48	60	72
1.0	-12.650	-15.300	-18.433	-15.150	-13.383	-13.614		-23.000	-22.500	-24.583	-24.231	-28.571
5.0	-8.477	-9.646	-12.409	-11.500	-9.196	-9.481		-16.250	-17.500	-19.737	-19.792	-21.500
10.0	-6.273	-7.625	-8.900	-8.476	-7.087	-7.615		-12.500	-14.265	-15.789	-16.667	-17.143
25.0	-3.074	-2.829	-2.955	-2.803	-2.622	-3.062		-5.541	-7.714	-9.024	-9.600	-9.744
50.0	1.196	3.553	4.833	5.167	5.926	6.500		2.000	1.447	0.909	-1.705	-1.122
75.0	7.411	11.354	13.370	15.125	17.065	17.935		9.412	9.898	10.000	9.643	10.000
90.0	13.318	18.625	20.300	23.000	25.333	27.357		17.143	17.619	19.474	19.250	20.313
95.0	16.438	23.313	25.250	27.063	30.929	31.643		21.944	23.571	26.000	24.286	25.000
99.0	23.433	31.767	33.433	35.150	37.575	38.060		27.500	29.545	30.000	35.000	37.000
NO. OF							NO. OF					
OBS.	194.	194.	194.	194.	194.	194.	OBS.	300.	300.	300.	300.	300.

TABLE IIc (cont'd)

FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 50 TO 60 (M/SEC)				INITIAL WIND SPEED 70 TO 80 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	12	24	36	48	60	72		PERCENT	12	24	36	48	60	72	
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-29.463	-34.225	-34.463	-36.150	-37.690	-37.690		1.0	-33.375	-38.575	-39.430	-39.644	-39.715	-39.741	
5.0	-18.732	-23.179	-25.906	-29.031	-28.028	-28.225		5.0	-27.875	-32.875	-37.150	-38.219	-38.575	-38.705	
10.0	-14.804	-17.781	-20.409	-23.300	-23.548	-23.406		10.0	-22.167	-25.750	-33.250	-36.437	-37.150	-37.409	
25.0	-8.893	-9.375	-12.366	-14.152	-15.511	-16.042		25.0	-10.750	-19.107	-19.821	-23.437	-29.375	-29.750	
50.0	-1.611	-1.500	-1.548	-5.208	-4.397	-7.372		50.0	-3.409	-9.167	-10.312	-13.125	-14.643	-14.583	
75.0	5.640	7.462	8.893	6.726	6.940	1.953		75.0	5.417	4.107	5.536	-0.208	-2.812	-2.321	
90.0	9.866	14.711	14.804	15.950	16.318	11.188		90.0	10.375	12.167	13.833	13.833	12.750	9.125	
95.0	13.732	19.019	20.563	22.464	21.568	18.406		95.0	13.938	16.917	18.583	18.583	15.375	13.583	
99.0	19.064	27.817	29.742	33.363	31.725	32.817		99.0	18.575	22.150	27.150	23.575	22.150	18.575	
NO. OF	231.	231.	231.	231.	231.	231.		NO. OF	57.	57.	57.	57.	57.	57.	
OBS.	231.	231.	231.	231.	231.	231.		OBS.	57.	57.	57.	57.	57.	57.	

FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 60 TO 70 (M/SEC)				INITIAL WIND SPEED 80 TO 90 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	12	24	36	48	60	72		PERCENT	12	24	36	48	60	72	
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-28.725	-36.225	-38.112	-38.921	-39.371	-39.371		1.0	-33.350	-39.175	-39.175	-39.450	-39.175	-39.450	
5.0	-22.156	-28.583	-30.562	-34.725	-36.854	-36.854		5.0	-26.750	-35.875	-35.875	-37.250	-35.875	-37.250	
10.0	-18.633	-24.450	-28.028	-30.950	-32.417	-33.278		10.0	-22.833	-29.500	-33.375	-33.500	-32.833	-34.750	
25.0	-11.736	-16.181	-21.736	-21.750	-22.434	-23.631		25.0	-13.437	-22.187	-24.792	-25.750	-26.750	-30.625	
50.0	-4.924	-6.977	-12.396	-11.979	-13.437	-12.989		50.0	-6.562	-10.625	-17.500	-15.625	-17.083	-17.917	
75.0	1.250	-0.179	-2.583	-2.829	-5.380	-3.281		75.0	0.938	-3.125	-5.417	-7.250	-2.812	0.938	
90.0	8.833	8.136	7.071	6.450	2.950	9.900		90.0	7.125	8.500	-0.300	1.750	4.500	7.833	
95.0	14.542	13.450	14.313	11.125	13.063	14.313		95.0	9.188	12.250	6.750	6.750	7.250	11.750	
99.0	23.725	22.450	31.225	28.725	28.725	23.725		99.0	13.350	14.450	18.350	13.350	9.450	18.350	
NO. OF	151.	151.	151.	151.	151.	151.		NO. OF	33.	33.	33.	33.	33.	33.	
OBS.	151.	151.	151.	151.	151.	151.		OBS.	33.	33.	33.	33.	33.	33.	

TABLE IIC (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 90 TO 100 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0 -39.150 -39.375 -39.717 -39.717 -39.717 -39.717			1.0 -13.737 -14.495 -14.162 -14.579 -14.994 -14.439			1.0 -13.737 -14.495 -14.162 -14.579 -14.994 -14.439			1.0 -13.737 -14.495 -14.162 -14.579 -14.994 -14.439		
5.0 -35.750 -37.875 -38.583 -38.583 -38.583 -38.583			5.0 -9.279 -10.475 -10.812 -11.229 -10.528 -9.990			5.0 -9.279 -10.475 -10.812 -11.229 -10.528 -9.990			5.0 -9.279 -10.475 -10.812 -11.229 -10.528 -9.990		
10.0 -31.500 -35.750 -37.167 -37.167 -37.167 -37.167			10.0 -7.843 -8.431 -8.809 -8.817 -8.022 -8.058			10.0 -7.843 -8.431 -8.809 -8.817 -8.022 -8.058			10.0 -7.843 -8.431 -8.809 -8.817 -8.022 -8.058		
25.0 -16.250 -21.875 -21.875 -21.875 -21.875 -21.875			25.0 -4.085 -4.051 -4.506 -3.934 -2.862 -2.702			25.0 -4.085 -4.051 -4.506 -3.934 -2.862 -2.702			25.0 -4.085 -4.051 -4.506 -3.934 -2.862 -2.702		
50.0 -5.833 -8.929 -11.875 -11.875 -11.875 -11.875			50.0 0.433 1.121 2.875 4.519 4.750 6.474			50.0 0.433 1.121 2.875 4.519 4.750 6.474			50.0 0.433 1.121 2.875 4.519 4.750 6.474		
75.0 0.938 -1.750 -2.125 -2.125 -2.125 -2.125			75.0 5.393 9.205 12.455 13.527 14.476 14.063			75.0 5.393 9.205 12.455 13.527 14.476 14.063			75.0 5.393 9.205 12.455 13.527 14.476 14.063		
90.0 4.125 5.750 5.750 5.750 5.750 5.750			90.0 9.700 17.821 19.969 20.731 20.409 22.042			90.0 9.700 17.821 19.969 20.731 20.409 22.042			90.0 9.700 17.821 19.969 20.731 20.409 22.042		
95.0 5.750 9.150 9.150 9.150 9.150 9.150			95.0 13.313 22.194 23.827 24.596 24.977 26.844			95.0 13.313 22.194 23.827 24.596 24.977 26.844			95.0 13.313 22.194 23.827 24.596 24.977 26.844		
99.0 9.150 17. 17. 17. 17. 17.			99.0 26.650 29.983 33.317 32.488 33.738 33.738			99.0 26.650 29.983 33.317 32.488 33.738 33.738			99.0 26.650 29.983 33.317 32.488 33.738 33.738		
NO. OF			NO. OF			NO. OF			NO. OF		
OBS. 17. 17. 17. 17. 17.			OBS. 201. 201. 201. 201. 201.			OBS. 201. 201. 201. 201. 201.			OBS. 201. 201. 201. 201. 201.		

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0 -8.767 -9.383 -8.767 -8.150 -8.150 -8.767			1.0 -18.850 -22.433 -21.825 -23.075 -23.717 -21.150			1.0 -18.850 -22.433 -21.825 -23.075 -23.717 -21.150			1.0 -18.850 -22.433 -21.825 -23.075 -23.717 -21.150		
5.0 -4.860 -6.917 -4.650 -4.056 -3.583 -4.417			5.0 -12.100 -15.167 -15.167 -16.150 -17.964 -14.854			5.0 -12.100 -15.167 -15.167 -16.150 -17.964 -14.854			5.0 -12.100 -15.167 -15.167 -16.150 -17.964 -14.854		
10.0 -4.120 -4.417 -2.800 -2.000 -0.500 -1.333			10.0 -9.238 -11.556 -12.304 -12.739 -14.000 -12.208			10.0 -9.238 -11.556 -12.304 -12.739 -14.000 -12.208			10.0 -9.238 -11.556 -12.304 -12.739 -14.000 -12.208		
25.0 -1.900 0.167 1.250 3.750 4.038 6.389			25.0 -4.802 -6.389 -6.071 -7.102 -5.900 -4.096			25.0 -4.802 -6.389 -6.071 -7.102 -5.900 -4.096			25.0 -4.802 -6.389 -6.071 -7.102 -5.900 -4.096		
50.0 3.000 6.111 10.000 10.357 12.083 17.222			50.0 0.300 -0.364 1.250 0.833 3.088 2.976			50.0 0.300 -0.364 1.250 0.833 3.088 2.976			50.0 0.300 -0.364 1.250 0.833 3.088 2.976		
75.0 8.472 11.875 15.278 17.750 22.708 27.500			75.0 6.650 7.803 9.295 10.563 9.951 9.745			75.0 6.650 7.803 9.295 10.563 9.951 9.745			75.0 6.650 7.803 9.295 10.563 9.951 9.745		
90.0 13.111 18.600 22.600 23.300 29.667 34.778			90.0 11.211 14.370 16.556 16.083 15.571 17.286			90.0 11.211 14.370 16.556 16.083 15.571 17.286			90.0 11.211 14.370 16.556 16.083 15.571 17.286		
95.0 15.750 22.300 27.167 30.500 36.300 37.357			95.0 14.553 20.813 20.188 21.833 20.150 20.591			95.0 14.553 20.813 20.188 21.833 20.150 20.591			95.0 14.553 20.813 20.188 21.833 20.150 20.591		
99.0 31.300 26.300 36.300 36.300 39.260 39.471			99.0 19.230 28.460 29.100 29.460 25.767 27.300			99.0 19.230 28.460 29.100 29.460 25.767 27.300			99.0 19.230 28.460 29.100 29.460 25.767 27.300		
NO. OF			NO. OF			NO. OF			NO. OF		
OBS. 74. 74. 74. 74. 74.			OBS. 254. 254. 254. 254. 254.			OBS. 254. 254. 254. 254. 254.			OBS. 254. 254. 254. 254. 254.		

TABLE IIc (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 40 TO 50 (M/SEC)			INITIAL WIND SPEED 60 TO 70 (M/SEC)			
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			
			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS 12			24			36			48			
1.0			-18.850	-24.300	-30.400	-28.600	-26.933	-28.686	1.0	-19.075	-28.150	-33.150
5.0			-14.700	-19.083	-20.571	-18.769	-22.615	-23.900	5.0	-15.375	-23.937	-28.583
10.0			-12.400	-15.250	-14.900	-15.231	-19.143	-19.650	10.0	-13.937	-21.521	-25.500
25.0			-8.043	-9.487	-8.750	-9.483	-11.667	-11.786	25.0	-10.469	-15.750	-14.792
50.0			-2.955	-3.514	-1.857	-1.875	-2.286	-3.333	50.0	-4.500	-7.083	-8.056
75.0			3.846	5.556	5.476	8.333	7.727	6.538	75.0	3.393	2.750	-0.312
90.0			9.320	11.286	14.300	16.444	14.400	13.692	90.0	13.250	13.833	12.167
95.0			12.231	14.371	18.900	22.000	20.500	18.222	95.0	17.875	20.375	15.750
99.0			15.800	20.800	27.900	35.400	30.800	25.800	99.0	23.150	24.075	33.150
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			OBS.			OBS.			37.			
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TABLE IIC (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 30 TO 40 (M/SEC)			INITIAL WIND SPEED 40 TO 50 (M/SEC)					
ALTIMUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS			12	24	36	48	60	72	12	24	36	48	60	72
1.0	-9.862	-14.450	-14.450	-14.450	-14.450	-14.450	-14.450	-14.450	1.0	-19.675	-19.783	-24.350	-19.783	-19.675
5.0	-9.312	-12.250	-12.250	-12.250	-12.250	-12.250	-12.250	-12.250	5.0	-16.375	-16.917	-21.750	-16.917	-16.375
10.0	-8.625	-9.833	-9.833	-9.500	-9.750	-9.750	-9.750	-9.750	10.0	-16.750	-17.833	-18.500	-17.833	-16.750
25.0	-6.562	-7.083	-7.083	-3.125	-5.625	-5.625	-5.625	-5.625	25.0	-9.750	-11.875	-14.583	-12.917	-12.917
50.0	0.833	-3.125	-2.500	2.500	0.833	3.750	3.750	3.750	50.0	-6.500	-6.875	-9.375	-8.500	-6.125
75.0	5.625	1.250	2.083	9.125	10.625	13.125	13.125	13.125	75.0	13.750	1.875	-5.312	-5.250	1.250
90.0	9.750	9.500	4.833	12.250	14.750	22.250	22.250	22.250	90.0	19.250	6.750	-0.750	-0.750	4.500
95.0	12.250	22.250	7.250	13.625	22.250	23.625	23.625	23.625	95.0	21.750	8.375	1.750	1.750	16.750
99.0	14.450	24.450	9.450	14.725	24.450	24.725	24.725	24.725	99.0	24.350	9.675	4.350	4.350	19.350
NO. OF			OBS.			OBS.			OBS.			OBS.		
11.			11.			11.			13.			13.		

TABLE IID

February, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data .

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			0 TO 10 (M/SEC)					
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION			0 TO 45 (DEG)			ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION			90 TO 135 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT					
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS					
1.0			-4.867			-9.100			-4.667			-9.100			-4.667			-9.100			-4.667			-9.100		
5.0			-4.437			-5.500			-4.437			-5.500			-4.437			-5.500			-4.437			-5.500		
10.0			-3.675			-4.333			-3.675			-4.333			-3.675			-4.333			-3.675			-4.333		
25.0			-2.188			-2.063			-2.812			-2.188			-2.063			-2.812			-2.188			-2.063		
50.0			1.667			1.250			0.			1.000			2.500			3.000			5.000			5.000		
75.0			8.125			4.063			4.500			6.250			7.500			7.063			9.000			9.000		
90.0			12.000			21.000			10.500			13.000			11.000			9.333			17.333			17.333		
95.0			13.500			25.500			12.750			15.500			15.500			15.500			18.667			18.667		
99.0			14.700			29.100			14.550			19.100			19.100			19.100			19.733			19.733		
NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF		
OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
16.			16.			16.			16.			16.			16.			16.			16.			16.		
18.			18.			18.			18.			18.			18.			18.			18.			18.		
17.			17.			17.			17.			17.			17.			17.			17.			17.		
32.			32.			32.			32.			32.			32.			32.			32.			32.		

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION			45 TO 90 (DEG)			ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION			135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS		
1.0			-9.150			-4.630			-4.694			-9.150			-9.150			-9.575			-6.400		
5.0			-5.750			-4.150			-4.469			-5.750			-5.750			-7.875			-4.625		
10.0			-4.125			-3.300			-3.937			-3.633			-3.633			-5.750			-3.625		
25.0			-0.937			-0.750			-2.344			0.206			0.625			-2.187			-0.625		
50.0			1.944			2.917			1.250			3.750			6.369			2.500			2.333		
75.0			4.306			7.188			9.563			7.750			8.750			7.188			5.000		
90.0			8.250			21.500			16.500			11.500			10.750			10.750			11.333		
95.0			10.750			25.750			25.750			20.750			12.875			12.875			14.000		
99.0			14.150			29.150			29.150			24.150			14.375			14.375			23.400		
NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF		
OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
17.			17.			17.			17.			17.			17.			17.			17.		
32.			32.			32.			32.			32.			32.			32.			32.		

TABLE IID (cont'd)

FOR MONTH OF FEBRUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)					
PERCENT LEVELS 12 24 36 48 72				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)					
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS					
1.0	-7.300	-4.841	-9.100	-7.300	-7.300	-9.325	1.0	-9.128	-3.396	-8.692	-9.346	-8.692	-8.879
5.0	-4.575	-4.206	-5.500	-4.393	-4.469	-6.625	5.0	-5.639	-6.981	-4.825	-6.729	-4.790	-4.891
10.0	-3.900	-3.412	-3.667	-3.429	-3.625	-4.300	10.0	-4.368	-4.707	-4.085	-4.622	-3.898	-3.885
25.0	-1.875	-1.029	0.395	-0.536	-1.094	-0.250	25.0	-2.146	-2.147	-1.863	-2.219	-1.222	-0.865
50.0	1.579	3.125	3.947	5.000	3.571	3.250	50.0	1.933	2.167	2.378	2.134	4.318	3.963
75.0	5.227	7.344	8.958	13.625	9.318	8.611	75.0	6.629	7.218	7.689	7.716	8.861	10.852
90.0	8.909	9.875	14.667	16.833	14.125	13.500	90.0	10.542	12.864	13.458	13.679	13.912	17.038
95.0	10.750	12.300	17.300	21.625	18.250	15.750	95.0	13.813	17.625	19.150	19.150	20.375	20.250
99.0	22.300	14.460	19.460	24.325	23.650	37.300	99.0	23.575	23.430	27.150	32.150	29.430	29.288
NO. OF OBS.	54.	54.	54.	54.	54.	54.	NO. OF OBS.	157.	157.	157.	157.	157.	157.

[illegible]

TABLE IId (cont'd)

FOR MONTH OF				FEBRUARY				FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 40 TO 50 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL WIND SPEED 20 TO 30 (M/SEC)				ALTITUDE 16 TO 20 (KM)				INITIAL WIND SPEED 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS				24 36 48 72				LEVELS				24 36 48 72				24 36 48 72			
1.0				-20.987	-19.850	-22.237	-22.325	-21.790	-21.790	1.0	-36.350	-31.350	-33.175	-38.783	-34.270	-38.783			
5.0				-12.250	-13.880	-16.317	-17.044	-16.931	-16.317	5.0	-23.917	-23.917	-27.937	-31.750	-31.350	-34.187			
10.0				-9.207	-10.907	-12.914	-13.770	-13.803	-13.408	10.0	-16.750	-19.350	-22.833	-24.750	-27.125	-29.625			
25.0				-5.768	-6.772	-7.480	-8.418	-8.496	-8.314	25.0	-10.341	-14.135	-15.375	-17.083	-17.812	-18.594			
50.0				-0.710	-1.512	-1.306	-2.316	-2.601	-2.430	50.0	-3.884	-7.115	-10.395	-10.167	-10.893	-10.192			
75.0				4.774	5.089	5.766	5.236	4.639	3.944	75.0	2.708	1.250	-0.694	2.188	-1.932	-3.625			
90.0				9.402	11.438	13.776	12.580	12.096	11.844	90.0	6.688	10.500	10.875	5.833	7.643	3.700			
95.0				12.369	14.781	17.632	17.194	15.432	16.566	95.0	8.969	13.107	15.583	13.350	10.583	10.583			
99.0				19.475	24.650	24.790	23.895	24.650	19.945	99.0	13.175	16.350	26.350	18.175	21.350	26.350			
NO. OF										NO. OF									
OBS.				321.	321.	321.	321.	321.	321.	OBS.	73.	73.	73.	73.	73.	73.			

FOR MONTH OF				FEBRUARY				FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 50 TO 60 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL WIND SPEED 30 TO 40 (M/SEC)				ALTITUDE 16 TO 20 (KM)				INITIAL WIND SPEED 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS				24 36 48 72				LEVELS				24 36 48 72				24 36 48 72			
1.0				-24.000	-27.000	-28.200	-27.000	-27.750	-33.200	1.0	-24.575	-39.150	-34.787	-39.575	-39.717	-39.717			
5.0				-18.182	-19.167	-21.667	-19.118	-21.429	-23.333	5.0	-22.875	-35.750	-33.937	-37.875	-38.583	-38.583			
10.0				-14.375	-14.259	-18.158	-16.471	-17.812	-18.750	10.0	-20.750	-26.500	-32.875	-35.750	-37.167	-37.167			
25.0				-7.903	-9.286	-11.250	-9.559	-10.263	-10.500	25.0	-12.750	-21.250	-28.750	-26.250	-31.875	-29.375			
50.0				-1.786	-1.613	-2.656	-3.108	-3.590	-5.114	50.0	-4.167	-14.167	-17.500	-20.625	-19.167	-16.875			
75.0				3.846	6.029	5.517	4.231	4.250	4.722	75.0	2.917	-7.083	-11.875	-9.062	-6.250	-10.417			
90.0				10.333	10.000	10.385	11.111	12.917	11.000	90.0	7.167	5.750	-3.500	-5.875	-2.125	0.750			
95.0				13.333	13.000	13.846	16.429	17.000	14.000	95.0	8.583	7.875	0.750	-4.250	-1.062	2.875			
99.0				21.000	20.500	22.750	25.500	22.000	22.000	99.0	9.717	9.375	4.150	-0.850	-0.212	4.575			
NO. OF										NO. OF									
OBS.				180.	180.	180.	180.	180.	180.	OBS.	17.	17.	17.	17.	17.	17.			



TABLE IId (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			20 TO 30 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS								
LEVELS 12			24	36	48	60	72		50	60	72
1.0	-0.621	-0.621	-8.621	-9.250	-8.625	-8.625	-9.175		-20.867	-20.867	-19.760
5.0	-4.690	-4.690	-4.694	-6.250	-4.766	-4.886	-5.875		-15.727	-15.300	-14.941
10.0	-4.167	-4.167	-4.120	-4.427	-3.906	-4.136	-4.278		-12.840	-13.033	-13.118
25.0	-1.996	-1.996	-1.829	-1.849	-1.328	-1.886	-1.528		-7.946	-8.304	-8.545
50.0	1.652	2.108	2.108	2.670	3.032	2.929	3.438		-2.500	-2.333	-2.653
75.0	5.670	6.836	6.836	8.144	7.993	9.315	9.637		4.342	5.857	4.500
90.0	10.208	12.045	12.045	14.167	12.639	14.457	15.962		10.083	12.158	9.775
95.0	13.646	16.458	16.458	19.107	14.931	18.594	19.135		15.375	15.889	14.889
99.0	21.750	30.875	27.250	27.250	27.250	25.875	28.917		23.150	24.200	22.533
NO. OF											
OBS.	165.	165.	165.	165.	165.	165.	165.		248.	248.	248.

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			30 TO 40 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS								
LEVELS 12			24	36	48	60	72		60	72	
1.0	-14.095	-14.415	-14.289	-14.725	-14.725	-14.320	-14.415		-27.300	-28.200	-29.600
5.0	-9.640	-10.897	-10.018	-11.403	-11.403	-11.602	-10.897		-20.750	-22.000	-21.600
10.0	-7.917	-8.734	-8.670	-9.116	-9.116	-9.282	-8.974		-17.600	-18.273	-17.889
25.0	-4.011	-4.503	-4.796	-5.112	-5.112	-5.205	-5.108		-12.381	-12.000	-13.036
50.0	-0.614	-0.689	-0.734	0.336	0.336	0.474	-0.227		-6.136	-5.962	-6.075
75.0	4.375	5.406	6.619	6.361	6.361	6.918	7.074		1.071	1.111	2.000
90.0	9.513	11.558	12.435	12.420	12.420	12.395	14.341		8.714	8.286	11.222
95.0	12.763	14.433	14.847	15.932	15.932	16.883	19.017		13.600	11.000	14.222
99.0	21.263	22.010	21.683	23.763	23.763	23.350	25.050		22.300	19.800	19.867
NO. OF											
OBS.	299.	299.	299.	299.	299.	299.	299.		108.	108.	108.

TABLE IId (cont'd)

FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 40 TO 50 (M/SEC)				FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS				24 36 48 72				24 36 48 72				LEVELS				24 36 48 60 72				24 36 48 60 72			
1.0				-24.275	-33.550	-38.550	-38.550	-38.550	-38.550	-38.550	-38.550	1.0				-8.575	-7.150	-6.575	-9.430	-6.575	-6.575	-4.850	-4.850
5.0				-21.375	-24.550	-28.875	-24.550	-28.875	-24.550	-23.875	-23.875	5.0				-4.843	-4.630	-4.798	-7.150	-4.734	-4.734	-4.230	-4.230
10.0				-13.500	-23.100	-25.250	-21.833	-20.250	-21.833	-20.250	-20.250	10.0				-4.315	-4.060	-4.119	-4.806	-3.844	-3.844	-3.500	-3.500
25.0				-8.875	-13.750	-16.875	-14.219	-16.750	-16.964	-16.964	-16.964	25.0				-2.731	-2.350	-2.083	-2.431	-1.172	-1.172	-1.250	-1.250
50.0				-5.250	-5.625	-8.750	-8.750	-8.500	-9.167	-9.167	-9.167	50.0				-0.093	0.833	1.528	2.115	3.750	5.156	5.156	5.156
75.0				-0.179	-0.781	-1.562	3.438	0.938	-0.250	-0.250	-0.250	75.0				4.044	5.729	6.094	9.068	10.972	9.609	9.609	9.609
90.0				3.417	6.375	5.250	4.100	7.750	5.250	5.250	5.250	90.0				8.766	9.292	11.917	12.688	16.300	13.650	13.650	13.650
95.0				4.625	8.188	8.875	9.550	12.750	1.875	1.875	1.875	95.0				12.875	11.438	14.292	14.469	19.150	15.750	15.750	15.750
99.0				13.550	9.637	13.550	13.550	18.850	13.550	13.550	13.550	99.0				22.150	14.288	22.150	18.575	28.575	27.150	27.150	27.150
NO. OF				29. 29. 29. 29.				29. 29. 29. 29.				NO. OF				57. 57. 57. 57.				57. 57. 57. 57.			
OBS.				29. 29. 29. 29.				29. 29. 29. 29.				OBS.				57. 57. 57. 57.				57. 57. 57. 57.			

FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 50 TO 60 (M/SEC)				FOR MONTH OF				FEBRUARY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS				24 36 48 72				24 36 48 72				LEVELS				24 36 48 60 72				24 36 48 60 72			
1.0				-14.500	-24.750	-29.500	-29.500	-24.750	-29.500	-24.500	-29.500	1.0				-14.717	-14.575	-14.150	-14.575	-14.717	-14.717	-14.717	-14.717
5.0				-12.500	-23.750	-27.500	-27.500	-23.750	-27.500	-22.500	-27.500	5.0				-13.583	-12.875	-10.750	-12.875	-13.583	-13.583	-13.583	-13.583
10.0				-10.000	-22.500	-20.000	-20.000	-20.000	-20.000	-20.000	-25.000	10.0				-12.167	-10.750	-8.833	-10.750	-12.167	-12.167	-12.167	-12.167
25.0				-8.750	-17.500	-17.500	-14.167	-16.250	-9.167	-16.250	-9.167	25.0				-8.437	-6.250	-4.844	-4.687	-6.675	-4.750	-4.750	-4.750
50.0				-6.667	-11.667	-8.750	-10.000	-7.500	-5.000	-7.500	-5.000	50.0				-3.125	-1.900	-2.187	1.250	-2.083	-0.500	-0.500	-0.500
75.0				-3.750	-7.500	-5.625	-5.833	-3.125	-0.833	-3.125	-0.833	75.0				4.375	4.583	3.750	7.750	4.375	6.750	6.750	6.750
90.0				5.000	0.000	0.000	-2.500	-1.250	10.000	-1.250	10.000	90.0				13.250	8.833	8.833	11.500	8.833	9.300	9.300	9.300
95.0				7.500	2.500	2.500	-1.250	-0.825	12.500	-0.825	12.500	95.0				15.750	15.750	10.750	15.750	15.750	10.750	10.750	10.750
99.0				9.500	4.500	4.500	-0.250	-0.125	14.500	-0.125	14.500	99.0				19.150	19.150	14.150	19.150	19.150	14.150	14.150	14.150
NO. OF				10. 10. 10. 10.				10. 10. 10. 10.				NO. OF				17. 17. 17. 17.				17. 17. 17. 17.			
OBS.				10. 10. 10. 10.				10. 10. 10. 10.				OBS.				17. 17. 17. 17.				17. 17. 17. 17.			

TABLE IId (cont'd)

FOR MONTH OF		FEBRUARY		INITIAL WIND SPEED		20 TO 30 (M/SEC)	
ALTITUDE		16 TO 20 (KM)		INITIAL DIRECTION		315 TO 360 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	
1.0	-14.400	-14.700	-19.400	-19.400	-14.800	-14.700	
5.0	-12.000	-13.500	-17.000	-17.000	-14.000	-13.500	
10.0	-9.750	-12.000	-14.000	-14.500	-13.000	-12.000	
25.0	-7.500	-8.333	-6.333	-10.000	-10.000	-9.000	
50.0	-3.750	-3.333	-4.000	-5.000	-4.000	-6.000	
75.0	0.	1.250	-1.000	-1.250	-1.000	0.	
90.0	4.500	3.500	4.000	4.000	4.000	4.500	
95.0	7.000	4.250	7.000	7.000	7.000	12.000	
99.0	9.400	4.850	9.400	9.400	9.400	14.400	
NO. OF	12.	12.	12.	12.	12.	12.	
OBS.	12.	12.	12.	12.	12.	12.	

TABLE IIe

February, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			0 TO 10 (M/SEC)			INITIAL WIND DIRECTION			0 TO 90 (DEG)			
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72	12	24	36	48	60	72
1.0	-5.375	-7.687	-8.844	-7.687	-5.375	-4.911	1.0	-9.096	-9.266	-9.347	-9.266	-9.412	1.0	-9.096	-9.266	-9.347	-9.266	-9.412
5.0	-4.529	-4.635	-4.907	-4.602	-4.275	-4.236	5.0	-5.481	-6.328	-6.736	-6.328	-7.446	5.0	-5.481	-6.328	-6.736	-6.328	-7.446
10.0	-3.929	-3.993	-4.216	-3.902	-3.350	-3.380	10.0	-4.500	-4.629	-4.736	-4.629	-4.973	10.0	-4.500	-4.629	-4.736	-4.629	-4.973
25.0	-2.127	-2.066	-2.146	-1.799	-0.575	-0.810	25.0	-2.821	-2.884	-3.041	-2.884	-3.036	25.0	-2.884	-2.884	-3.041	-2.884	-3.036
50.0	0.964	1.058	1.483	1.844	3.022	2.641	50.0	-0.024	0.029	0.216	0.041	0.287	50.0	-0.024	0.029	0.216	0.041	0.287
75.0	4.268	4.022	5.625	6.020	7.147	6.555	75.0	3.348	3.405	3.931	4.857	5.164	75.0	3.405	3.931	4.857	5.164	5.296
90.0	8.500	7.841	9.276	9.671	10.500	9.939	90.0	6.250	6.563	8.106	8.807	9.803	90.0	6.250	6.563	8.106	8.807	9.934
95.0	11.458	9.943	11.875	12.250	13.583	13.365	95.0	8.510	9.010	9.886	10.893	12.847	95.0	8.510	9.010	9.886	10.893	14.018
99.0	25.375	17.875	20.375	14.717	18.938	20.375	99.0	12.750	16.625	17.750	21.083	21.625	99.0	12.750	16.625	17.750	21.083	21.625
NO. OF							NO. OF						NO. OF					
OBS.	185.	185.	185.	185.	185.	185.	OBS.	235.	235.	235.	235.	235.	OBS.	235.	235.	235.	235.	235.

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			10 TO 20 (M/SEC)			INITIAL WIND DIRECTION			10 TO 90 (DEG)			
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72	12	24	36	48	60	72
1.0	-14.550	-14.100	-19.100	-14.850	-19.550	-19.700	1.0	-14.950	-14.433	-14.575	-14.660	-14.881	1.0	-14.950	-14.433	-14.575	-14.660	-14.995
5.0	-12.750	-10.500	-15.500	-14.250	-17.750	-18.500	5.0	-9.580	-12.167	-12.875	-13.300	-13.975	5.0	-9.580	-12.167	-12.875	-13.300	-13.975
10.0	-10.500	-9.429	-14.000	-13.500	-15.500	-17.000	10.0	-8.560	-9.838	-10.750	-11.600	-12.700	10.0	-8.560	-9.838	-10.750	-11.600	-12.700
25.0	-6.875	-7.500	-10.625	-11.250	-12.917	-13.500	25.0	-5.500	-7.770	-7.750	-8.190	-9.451	25.0	-5.500	-7.770	-7.750	-8.190	-9.451
50.0	-3.125	-3.750	-5.000	-7.897	-9.000	-9.167	50.0	-2.262	-4.242	-3.784	-4.000	-5.831	50.0	-2.262	-4.242	-3.784	-4.000	-5.831
75.0	-0.312	1.500	-1.250	-4.167	-4.500	-5.417	75.0	1.477	-0.379	-0.338	-0.357	-1.979	75.0	1.477	-0.379	-0.338	-0.357	-1.979
90.0	5.500	4.200	2.000	1.000	-1.800	-2.250	90.0	4.955	3.765	5.571	4.267	2.900	90.0	4.955	3.765	5.571	4.267	2.900
95.0	7.750	5.500	3.500	5.500	-0.900	-1.125	95.0	9.083	5.900	9.214	7.071	5.750	95.0	9.083	5.900	9.214	7.071	5.750
99.0	9.550	9.100	4.700	9.100	-0.180	-0.225	99.0	13.725	9.980	13.725	9.986	9.150	99.0	13.725	9.980	13.725	9.986	9.150
NO. OF							NO. OF						NO. OF					
OBS.	18.	18.	18.	18.	18.	18.	OBS.	102.	102.	102.	102.	102.	OBS.	102.	102.	102.	102.	102.

TABLE Iie (cont'd)

FOR MONTH OF			FEBRUARY			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			10 TO			20 (M/SEC)		
ALTIITUDE			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION			90 TO 135			135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS			12			12			12			12			12			12		
1.0			-19.400	-19.700	-24.400	-19.850	-24.400	-24.800	-13.075	-9.759	-13.075	-13.717	-13.075	-11.150	-13.075	-13.075	-11.150	-13.075	-13.075	-11.150
5.0			-17.000	-18.500	-22.000	-19.250	-22.000	-24.000	-9.486	-8.797	-9.513	-9.764	-9.580	-9.321	-9.764	-9.580	-9.321	-9.764	-9.580	-9.321
10.0			-14.667	-17.000	-14.800	-18.500	-19.833	-23.000	-8.417	-7.594	-8.500	-8.694	-8.705	-8.405	-8.694	-8.705	-8.405	-8.694	-8.705	-8.405
25.0			-11.667	-12.500	-13.000	-16.250	-18.333	-20.000	-5.208	-4.522	-5.461	-5.486	-6.080	-5.655	-5.461	-5.486	-6.080	-5.461	-5.486	-6.080
50.0			-6.667	-8.000	-10.500	-13.000	-15.833	-15.000	-2.500	-1.691	-1.500	-1.500	-1.848	-2.054	-1.500	-1.500	-1.848	-1.500	-1.500	-2.054
75.0			-2.500	-5.000	-7.000	-10.000	-11.667	-12.000	0.250	2.279	3.456	2.938	2.986	2.768	2.279	3.456	2.938	2.986	2.768	2.768
90.0			-0.250	-0.500	-5.200	-7.000	-8.000	-10.200	4.100	6.278	7.825	6.833	7.888	8.313	6.278	7.825	6.833	7.888	8.313	8.313
95.0			2.000	2.000	-3.000	-6.000	-6.500	-8.000	6.438	8.417	9.229	8.972	10.250	11.438	8.417	9.229	8.972	10.250	11.438	11.438
99.0			4.400	4.400	-0.600	-5.200	-5.300	-5.600	11.150	11.150	13.075	16.150	21.150	16.150	11.150	13.075	16.150	21.150	16.150	16.150
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
12.			12.	12.	12.	12.	12.	12.	77.	77.	77.	77.	77.	77.	77.	77.	77.	77.	77.	77.

FOR MONTH OF			FEBRUARY			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED			0 TO 10			10 (M/SEC)		
ALTIITUDE			21 TO 25 (KM)			21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION			135 TO 180			180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS			12			12			12			12			12			12		
1.0			-8.937	-8.786	-9.292	-9.227	-9.469	-9.227	-4.981	-4.981	-4.981	-8.050	-8.050	-8.050	-4.981	-4.981	-4.981	-8.050	-8.050	-8.050
5.0			-4.964	-4.909	-6.458	-6.136	-7.344	-6.136	-4.449	-4.449	-4.449	-4.615	-4.615	-4.615	-4.449	-4.449	-4.449	-4.615	-4.615	-4.615
10.0			-4.357	-4.390	-4.653	-4.605	-4.922	-4.545	-3.784	-3.784	-3.784	-3.824	-3.824	-3.824	-3.784	-3.784	-3.784	-3.824	-3.824	-3.824
25.0			-2.536	-2.835	-2.882	-2.928	-2.930	-2.614	-1.790	-1.790	-1.790	-1.453	-1.453	-1.453	-1.790	-1.790	-1.790	-1.453	-1.453	-1.453
50.0			0.500	-0.244	0.089	-0.132	0.521	0.870	1.350	1.350	1.350	2.216	2.216	2.216	1.350	1.350	1.350	2.216	2.216	2.216
75.0			3.536	3.263	3.884	4.219	4.948	5.682	4.275	4.275	4.275	6.080	6.080	6.080	4.275	4.275	4.275	6.080	6.080	6.080
90.0			6.471	6.786	7.708	8.333	8.788	9.545	7.575	8.326	10.188	5.846	5.846	5.846	7.575	8.326	10.188	5.846	5.846	5.846
95.0			8.971	9.821	9.479	9.907	10.357	13.056	9.038	9.598	13.844	12.594	12.594	12.594	9.038	9.598	13.844	12.594	12.594	12.594
99.0			21.500	18.833	13.583	13.938	21.500	20.750	14.150	17.075	24.150	19.150	19.150	19.150	14.150	17.075	24.150	19.150	19.150	19.150
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
170.			170.	170.	170.	170.	170.	170.	117.	117.	117.	117.	117.	117.	117.	117.	117.	117.	117.	117.

TABLE ITe (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-6.370	-6.570	-9.404	-4.962	-6.425	-6.212	1.0	-9.040	-9.242	-9.200	-9.242	1.0	-9.040	-9.242	-9.200	-9.242	-9.345
5.0	-4.808	-4.785	-7.021	-4.461	-4.495	-4.685	5.0	-5.200	-6.211	-6.000	-6.211	5.0	-5.200	-6.211	-6.000	-6.211	-6.727
10.0	-4.170	-4.070	-4.779	-3.833	-3.794	-3.970	10.0	-4.469	-4.623	-4.530	-4.614	10.0	-4.469	-4.623	-4.530	-4.614	-4.702
25.0	-2.254	-1.925	-2.716	-1.952	-1.691	-1.825	25.0	-2.808	-2.962	-2.652	-2.913	25.0	-2.808	-2.962	-2.652	-2.913	-2.607
50.0	0.890	1.528	0.694	1.298	1.888	1.620	50.0	-0.038	-0.192	0.550	-0.079	50.0	-0.038	-0.192	0.550	-0.079	0.408
75.0	3.919	4.838	4.005	4.736	5.875	4.931	75.0	3.447	3.490	4.150	3.804	75.0	3.447	3.490	4.150	3.804	4.062
90.0	7.175	8.788	8.344	9.065	9.450	9.929	90.0	6.750	7.367	8.047	8.212	90.0	6.750	7.367	8.047	8.212	8.231
95.0	8.983	10.607	11.321	13.563	13.208	16.063	95.0	9.000	9.767	9.721	11.182	95.0	9.000	9.767	9.721	11.182	10.250
99.0	21.425	14.693	17.850	22.850	22.850	27.617	99.0	15.200	20.200	17.600	18.120	99.0	15.200	20.200	17.600	18.120	15.200
NO. OF	143.	143.	143.	143.	143.	143.	NO. OF	288.	288.	288.	288.	NO. OF	288.	288.	288.	288.	288.
OBS.	143.	143.	143.	143.	143.	143.	OBS.	288.	288.	288.	288.	OBS.	288.	288.	288.	288.	288.

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.600	-14.400	-16.800	-14.600	-14.600	-14.400	1.0	-16.250	-14.625	-16.250	-16.750	1.0	-16.250	-14.625	-16.250	-16.750	-16.750
5.0	-9.000	-12.000	-14.500	-13.000	-13.000	-12.000	5.0	-12.500	-13.125	-13.690	-14.741	5.0	-12.500	-13.125	-13.690	-14.741	-14.674
10.0	-8.000	-9.618	-11.500	-11.000	-11.000	-9.833	10.0	-9.811	-11.250	-11.905	-13.448	10.0	-9.811	-11.250	-11.905	-13.448	-13.043
25.0	-5.000	-6.182	-7.500	-6.125	-7.500	-6.333	25.0	-7.689	-8.380	-8.918	-9.773	25.0	-7.689	-8.380	-8.918	-9.773	-9.198
50.0	-1.250	-3.455	-3.125	-3.750	-3.125	-5.833	50.0	-4.167	-4.904	-6.119	-6.364	50.0	-4.167	-4.904	-6.119	-6.364	-5.660
75.0	4.000	2.500	2.500	7.500	2.500	-1.000	75.0	-0.694	-1.298	-1.875	-1.786	75.0	-0.694	-1.298	-1.875	-1.786	-1.685
90.0	9.333	14.000	14.000	14.333	9.333	7.000	90.0	3.125	2.647	3.214	2.941	90.0	3.125	2.647	3.214	2.941	2.692
95.0	14.000	19.000	19.000	17.000	14.000	8.500	95.0	4.668	4.653	6.389	5.500	95.0	4.668	4.653	6.389	5.500	6.875
99.0	18.800	23.800	26.800	19.400	18.800	9.700	99.0	16.250	9.583	9.722	13.750	99.0	16.250	9.583	9.722	13.750	14.375
NO. OF	24.	24.	24.	24.	24.	24.	NO. OF	150.	150.	150.	150.	NO. OF	150.	150.	150.	150.	150.
OBS.	24.	24.	24.	24.	24.	24.	OBS.	150.	150.	150.	150.	OBS.	150.	150.	150.	150.	150.

TABLE 11e (cont'd)

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			20 (M/SEC)		
ALTIMITUDE 21 TO 25 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTIMITUDE 21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			20 (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			20 (M/SEC)		
LEVELS 12			24			36			12			24			36			48		
72			20.			20.			1.0			16.825			-18.412			-18.730		
1.0			-24.750			-24.500			5.0			-13.426			-14.440			-14.782		
5.0			-23.750			-22.500			10.0			-11.559			-12.929			-13.758		
10.0			-22.500			-20.000			25.0			-8.036			-9.282			-10.685		
13.333			-18.750			-17.500			50.0			-4.045			-5.904			-7.782		
13.333			-12.500			-11.429			75.0			-1.159			-1.581			-2.125		
8.125			-6.250			-7.857			90.0			2.423			2.767			-0.206		
5.000			0.000			-2.500			95.0			4.865			4.865			3.531		
7.500			5.000			-1.250			99.0			9.730			18.650			13.650		
9.500			9.000			-0.250			NO. OF			OBS.			127.			127.		
20.			20.			20.			OBS.			127.			127.			127.		
20.			20.			20.			OBS.			127.			127.			127.		

FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			FEBRUARY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			0 TO 10 (M/SEC)		
ALTIMITUDE 21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTIMITUDE 21 TO 25 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			315 TO 360 (DEG)		
PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			315 TO 360 (DEG)		
LEVELS 12			24			36			12			24			36			48		
72			20.			20.			1.0			-8.833			-9.045			-8.500		
1.0			-9.100			-9.229			5.0			-4.918			-5.227			-4.803		
5.0			-6.143			-6.318			10.0			-4.341			-4.405			-4.213		
10.0			-4.529			-4.629			25.0			-2.610			-2.812			-2.444		
25.0			-2.941			-2.987			50.0			0.316			-0.288			0.600		
50.0			-0.294			-0.268			75.0			3.639			3.941			4.100		
75.0			3.077			3.724			90.0			6.923			7.714			8.182		
90.0			5.643			8.026			95.0			8.942			9.214			10.313		
95.0			8.536			10.308			99.0			14.833			14.929			16.500		
13.400			16.267			14.880			NO. OF			OBS.			210.			210.		
324.			324.			324.			OBS.			210.			210.			210.		
324.			324.			324.			OBS.			210.			210.			210.		

TABLE IIe (cont'd)

FOR MONTH OF		FEBRUARY		INITIAL WIND SPEED		10 TO	20 (M/SEC)
ALTITUDE		21 TO	25 (KM)	INITIAL DIRECTION		315 TO	360 (DEG)
WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	
1.0	-14.375	-16.750	-14.792	-14.792	-16.750	-18.750	
5.0	-11.875	-14.375	-13.958	-13.958	-14.583	-14.375	
10.0	-9.722	-11.250	-12.917	-12.917	-12.500	-11.250	
25.0	-7.639	-8.646	-9.844	-9.844	-9.297	-8.839	
50.0	-4.250	-6.042	-5.937	-5.937	-7.344	-6.607	
75.0	-1.125	-1.875	-1.042	-1.607	-5.391	-3.250	
90.0	6.250	2.500	4.167	2.500	1.250	2.500	
95.0	9.375	4.583	8.750	4.583	4.375	6.750	
99.0	16.750	6.750	16.750	13.750	13.750	13.750	
NO. OF							
OBS.	25.	25.	25.	25.	25.	25.	



TABLE IIIa

March, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MARCH			INITIAL WIND SPEED			INITIAL WIND SPEED			INITIAL WIND SPEED		
ALTIMETER 1 TO 5 (KM)			0 TO 10 (M/SEC)			0 TO 45 (DEG)			0 TO 90 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-4.830	-4.775	-4.775	-4.775	-4.662	1.0	-8.300	-9.150	-8.300	-9.433	-8.300
5.0	-4.250	-3.875	-3.875	-3.875	-3.312	5.0	-4.794	-5.750	-4.650	-7.167	-4.500
10.0	-3.500	-2.750	-2.750	0.318	-1.625	10.0	-4.294	-4.417	-3.800	-4.778	-4.125
25.0	-1.250	0.268	0.417	2.159	1.964	25.0	-2.794	-2.292	-1.250	-1.944	-0.937
50.0	2.500	2.679	4.167	5.250	6.563	50.0	-0.294	1.071	1.765	2.273	2.917
75.0	6.406	5.250	8.281	9.625	11.250	75.0	2.885	4.107	4.265	6.563	7.188
90.0	8.937	9.300	15.500	13.250	15.500	90.0	4.846	7.600	8.250	5.750	10.750
95.0	9.781	11.625	17.750	18.250	17.750	95.0	7.167	9.300	11.500	16.500	12.875
99.0	13.650	14.325	19.550	23.650	19.550	99.0	9.433	18.300	23.300	23.300	14.575
NO. OF	27.	27.	27.	27.	27.	NO. OF	34.	34.	34.	34.	34.
OBS.	27.	27.	27.	27.	27.	OBS.	34.	34.	34.	34.	34.
FOR MONTH OF MARCH			INITIAL WIND SPEED			INITIAL WIND SPEED			INITIAL WIND SPEED		
ALTIMETER 1 TO 5 (KM)			10 TO 20 (M/SEC)			10 TO 45 (DEG)			10 TO 90 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.750	-9.900	-9.900	-9.875	-9.833	1.0	-14.100	-9.820	-14.100	-14.550	-14.100
5.0	-8.750	-9.500	-9.500	-9.375	-9.167	5.0	-10.500	-9.100	-10.500	-12.750	-10.500
10.0	-7.500	-9.000	-9.000	-8.750	-8.333	10.0	-8.667	-8.200	-9.429	-10.500	-9.500
25.0	-4.500	-7.500	-7.500	-6.875	-5.833	25.0	-4.722	-5.500	-7.500	-8.437	-7.812
50.0	-2.000	-5.000	-5.000	-3.333	-2.500	50.0	-2.222	-1.667	-4.167	-5.625	-6.111
75.0	0.833	2.500	1.250	1.250	0.833	75.0	0.625	1.786	-0.417	-2.083	-2.500
90.0	3.333	5.000	5.000	5.000	3.333	90.0	4.000	3.714	5.500	1.000	-0.667
95.0	4.167	7.500	7.500	7.500	4.167	95.0	5.500	4.357	7.750	5.500	-0.500
99.0	4.833	9.500	9.500	9.500	4.833	99.0	9.100	4.871	9.550	9.100	-0.100
NO. OF	10.	10.	10.	10.	10.	NO. OF	18.	18.	18.	18.	18.
OBS.	10.	10.	10.	10.	10.	OBS.	18.	18.	18.	18.	18.

TABLE IIIa (cont'd)

FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-7.800	-4.756	-4.686	-4.756	-8.900	-7.800	1.0	-9.683	-9.762	-14.050	-14.050	-14.525
5.0	-4.455	-3.778	-3.429	-3.778	-4.833	-4.600	5.0	-6.417	-8.612	-10.250	-15.250	-12.625
10.0	-3.455	-2.556	-1.857	-2.556	-3.000	-3.867	10.0	-6.833	-7.625	-9.100	-9.357	-10.250
25.0	-0.455	0.769	1.538	1.111	1.000	-1.667	25.0	-3.750	-4.464	-6.250	-7.321	-7.250
50.0	2.174	5.000	6.250	6.176	4.667	2.308	50.0	-0.357	-1.071	-2.612	-3.125	-4.375
75.0	4.565	8.929	12.083	3.412	9.545	9.000	75.0	3.036	3.250	0.417	3.750	3.125
90.0	7.875	13.600	14.833	13.833	14.667	15.750	90.0	5.250	10.250	10.250	6.500	7.625
95.0	9.250	16.333	17.250	19.000	19.500	18.500	95.0	7.625	12.625	12.625	10.250	8.612
99.0	12.800	19.267	19.450	23.900	23.900	22.800	99.0	9.525	14.525	14.525	14.050	9.762
NO. OF OBS.	44.	44.	44.	44.	44.	44.	NO. OF OBS.	19.	19.	19.	19.	19.

FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-4.800	-5.600	-7.800	-8.900	-8.900	1.0	-6.300	-8.767	-8.943	-9.327	-9.178	
5.0	-4.000	-4.150	-4.429	-4.882	-4.913	-4.926	5.0	-4.437	-4.816	-4.949	-6.636	
10.0	-3.500	-3.050	-3.381	-3.588	-3.957	-4.111	10.0	-3.667	-3.842	-4.000	-4.500	
25.0	-0.	0.208	-0.238	0.161	-1.087	-1.667	25.0	-1.354	-0.921	-1.154	-1.579	
50.0	2.750	4.792	3.889	3.710	3.400	2.955	50.0	2.400	3.125	3.784	3.472	
75.0	6.000	8.889	8.810	8.333	8.684	9.333	75.0	6.719	7.436	9.118	8.611	
90.0	9.300	13.273	15.750	13.444	13.154	14.308	90.0	10.429	10.917	13.682	13.050	
95.0	11.800	16.000	18.500	16.600	14.846	17.187	95.0	13.071	14.000	16.000	14.900	
99.0	15.600	22.800	27.800	20.600	25.600	30.600	99.0	17.600	18.520	19.700	19.600	
NO. OF OBS.	88.	88.	88.	88.	88.	88.	NO. OF OBS.	148.	148.	148.	148.	148.

TABLE IIIa (cont'd)

FOR MONTH OF MARCH				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTIITUDE 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-9.976	-13.650	-14.956	-17.300	-14.229	-14.400		1.0	-8.450	-8.873	-8.229	-4.961	-8.229	-8.450
5.0	-8.706	-9.682	-12.556	-13.300	-11.143	-12.000		5.0	-4.771	-4.892	-4.526	-4.161	-4.565	-4.633
10.0	-7.118	-8.455	-9.875	-10.600	-9.345	-9.667		10.0	-4.125	-3.938	-3.439	-3.161	-3.565	-3.600
25.0	-3.594	-4.839	-7.344	-7.000	-6.552	-6.667		25.0	-2.187	-1.077	-0.175	-0.161	-0.565	-0.500
50.0	0.625	-0.484	-3.125	-2.344	-2.568	-2.187		50.0	1.042	3.038	4.545	4.687	5.317	5.000
75.0	4.844	4.615	2.059	2.400	2.105	3.824		75.0	4.271	7.768	9.242	9.915	10.349	10.000
90.0	9.750	9.176	7.818	6.455	8.714	11.200		90.0	8.222	12.346	13.778	15.067	14.674	15.611
95.0	12.556	12.600	11.000	8.909	13.600	20.750		95.0	9.944	14.731	16.636	19.200	18.200	19.056
99.0	14.956	19.800	19.800	14.800	24.600	29.600		99.0	15.867	22.600	27.533	27.533	27.533	24.075
NO. OF								NO. OF						
OBS.	108.	108.	108.	108.	108.	108.		OBS.	248.	248.	248.	248.	248.	248.

FOR MONTH OF MARCH				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIITUDE 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-14.633	-28.900	-23.900	-23.900	-23.900	-19.725		1.0	-13.535	-14.755	-16.070	-14.682	-16.070	-16.725
5.0	-13.167	-14.875	-14.875	-19.750	-19.875	-18.625		5.0	-9.313	-10.618	-12.183	-12.973	-12.907	-13.635
10.0	-11.333	-13.500	-13.500	-17.000	-18.500	-17.250		10.0	-7.754	-8.905	-9.481	-10.837	-10.100	-11.670
25.0	-8.214	-9.375	-9.583	-10.833	-14.643	-14.062		25.0	-4.045	-5.174	-5.797	-6.836	-7.058	-7.392
50.0	-3.333	-3.750	-5.000	-6.429	-10.714	-10.625		50.0	-0.177	-0.495	-0.638	-1.675	-1.770	-1.619
75.0	2.917	-0.312	-1.562	-2.500	-4.167	-6.786		75.0	4.735	6.250	5.963	5.199	5.341	6.475
90.0	9.000	9.000	4.000	-0.143	4.000	-1.000		90.0	9.551	11.611	11.796	12.982	11.674	13.038
95.0	17.250	14.500	14.500	4.500	9.500	7.250		95.0	13.261	15.614	16.175	18.212	16.359	16.359
99.0	19.450	28.900	18.900	23.900	38.900	9.450		99.0	19.035	27.675	29.070	27.588	25.350	24.070
NO. OF								NO. OF						
OBS.	22.	22.	22.	22.	22.	22.		OBS.	393.	393.	393.	393.	393.	393.

TABLE IIIa (cont'd)

FOR MONTH OF		MARCH		INITIAL WIND SPEED 20 TO 30 (M/SEC)		INITIAL WIND SPEED 40 TO 50 (M/SEC)	
ALTITUDE 1 TO 5 (KM)		5 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)		INITIAL DIRECTION 225 TO 270 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS	12	24	36	48	60	72	72
1.0	-17.000	-19.538	-24.000	-24.250	-24.875	-24.500	-39.450
5.0	-11.923	-16.154	-19.091	-19.565	-19.800	-20.633	-37.250
10.0	-9.231	-13.462	-16.591	-17.174	-17.600	-18.333	-34.750
25.0	-5.000	-8.529	-11.286	-11.974	-12.674	-13.437	-30.625
50.0	-1.839	-3.137	-4.556	-5.000	-6.735	-7.442	-22.500
75.0	2.614	3.108	2.500	1.286	1.000	-0.405	-12.167
90.0	7.308	6.654	6.654	6.667	7.250	7.667	-10.125
95.0	9.423	12.000	14.000	9.286	10.000	12.222	-7.750
99.0	16.000	26.333	23.500	19.000	16.333	22.000	-5.550
NO. OF	220.	220.	220.	220.	220.	220.	11.
OBS.	220.	220.	220.	220.	220.	220.	11.

FOR MONTH OF		MARCH		INITIAL WIND SPEED 30 TO 40 (M/SEC)		INITIAL WIND SPEED 50 TO 60 (M/SEC)	
ALTITUDE 1 TO 5 (KM)		5 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS	12	24	36	48	60	72	72
1.0	-23.600	-26.600	-27.200	-32.200	-32.200	-34.067	-9.073
5.0	-19.000	-23.000	-23.714	-28.714	-26.714	-30.333	-5.364
10.0	-15.500	-18.667	-21.714	-26.714	-26.714	-27.633	-4.113
25.0	-7.500	-13.162	-15.714	-21.667	-22.000	-21.875	-1.226
50.0	-1.875	-7.667	-8.750	-12.222	-13.125	-13.750	-0.208
75.0	5.625	-2.000	-1.667	-2.500	-5.000	-3.889	3.800
90.0	11.167	7.000	3.143	6.750	-0.333	1.750	9.063
95.0	13.500	15.500	6.000	10.500	13.000	5.333	14.909
99.0	17.200	32.200	32.200	27.200	16.600	9.067	19.083
NO. OF	56.	56.	56.	56.	56.	56.	204.
OBS.	56.	56.	56.	56.	56.	56.	204.

TABLE IIIa (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 30 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-12.558	-14.495	-15.087	-17.193	-17.544	-15.087	1.0	-23.975	-32.950	-33.975	-32.950
5.0	-9.179	-11.784	-12.699	-12.741	-13.121	-12.392	5.0	-19.750	-24.937	-29.950	-29.125
10.0	-7.903	-9.466	-9.906	-9.713	-9.982	-9.712	10.0	-14.389	-22.375	-27.900	-27.417
25.0	-4.571	-6.078	-5.634	-5.783	-6.387	-6.508	25.0	-10.972	-16.458	-22.292	-22.292
50.0	-1.611	-1.895	-1.075	-0.447	-0.506	-0.753	50.0	-4.219	-9.038	-12.500	-14.583
75.0	2.602	4.146	5.091	6.611	6.746	6.272	75.0	-1.016	-5.096	-6.477	-7.361
90.0	7.329	9.427	12.750	13.292	12.450	12.617	90.0	2.900	1.125	-2.100	-2.625
95.0	9.914	13.708	16.450	17.297	16.813	17.058	95.0	4.950	3.688	-0.050	-0.062
99.0	16.783	20.117	24.225	28.450	29.225	28.450	99.0	17.950	7.950	17.950	22.950
NO. OF							NO. OF				
OBS.	393.	393.	393.	393.	393.	393.	OBS.	41.	41.	41.	41.

FOR MONTH OF			MARCH			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-18.183	-22.275	-24.455	-24.050	-24.394	-24.936	1.0	-8.970	-9.356	-9.142	-8.712
5.0	-13.464	-17.517	-20.275	-20.250	-19.898	-19.741	5.0	-4.987	-6.781	-5.708	-4.826
10.0	-10.976	-14.463	-16.192	-17.088	-17.523	-17.875	10.0	-4.543	-4.720	-4.232	-4.045
25.0	-7.380	-9.316	-10.292	-11.434	-12.589	-12.993	25.0	-3.211	-2.835	-1.473	-1.705
50.0	-3.191	-4.409	-5.236	-5.833	-5.987	-6.570	50.0	-0.991	0.483	2.734	4.028
75.0	0.568	0.750	-0.394	0.438	2.688	0.950	75.0	2.227	5.284	7.679	9.635
90.0	5.750	7.525	6.342	8.275	10.750	9.269	90.0	4.641	8.795	12.591	14.281
95.0	9.482	10.688	9.092	12.958	14.482	14.750	95.0	7.036	9.966	14.932	17.375
99.0	17.388	22.275	14.910	19.925	26.517	29.550	99.0	9.979	14.963	24.850	22.425
NO. OF							NO. OF				
OBS.	209.	209.	209.	209.	209.	209.	OBS.	103.	103.	103.	103.

TABLE IIIa (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)					
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS			12	24	36	48	60	72	12	24	36	48	60	72
1.0			-14.560	-17.800	-19.267	-18.900	-17.800	-14.633	1.0	-24.700	-24.400	-24.700	-29.400	-24.400
5.0			-12.800	-14.600	-16.333	-14.875	-14.250	-13.167	5.0	-23.500	-22.000	-23.500	-27.000	-22.000
10.0			-10.600	-13.667	-14.533	-13.500	-12.875	-11.333	10.0	-22.000	-19.857	-22.000	-19.800	-19.750
25.0			-8.846	-11.667	-12.333	-9.722	-9.474	-8.684	25.0	-18.333	-16.571	-19.167	-18.000	-17.500
50.0			-6.731	-8.000	-8.571	-6.667	-6.579	-5.789	50.0	-10.000	-16.429	-16.667	-15.000	-13.333
75.0			-3.869	-4.000	-4.167	-1.875	-1.429	-1.364	75.0	-7.500	-13.333	-10.000	-6.667	-7.500
90.0			-0.222	-0.700	2.000	4.500	9.000	6.000	90.0	-6.000	-10.333	-7.000	-1.000	-1.000
95.0			2.250	2.000	4.750	6.000	16.333	9.667	95.0	-3.500	-8.000	-6.000	2.000	2.000
99.0			4.450	7.800	12.800	12.800	19.267	13.900	99.0	-3.100	-3.600	-3.200	4.400	4.400
NO. OF			44.	44.	44.	44.	44.	44.	NO. OF	12.	12.	12.	12.	12.
OBS.									OBS.					

TABLE IIb

March, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF			MARCH			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72			LEVELS	12	24	36	48	60	72		
1.0	-14.500	0.125	-4.750	0.167	-14.500	-14.500			1.0	-13.592	-13.310	-9.635	-9.350	-9.396	-9.232		
5.0	-12.500	0.625	-3.750	0.833	-12.500	-12.500			5.0	-8.775	-8.922	-6.275	-6.750	-6.982	-6.159		
10.0	-10.000	1.250	-2.500	1.667	-5.000	-5.000			10.0	-4.906	-6.281	-4.181	-4.187	-4.396	-3.595		
25.0	-2.500	3.125	2.500	4.167	-1.250	-1.250			25.0	-2.266	-1.336	-0.660	0.729	0.590	1.349		
50.0	7.500	10.000	10.000	8.333	5.000	5.000			50.0	2.010	3.920	5.064	6.597	6.750	7.685		
75.0	17.500	18.750	18.750	13.750	10.833	10.833			75.0	6.728	9.426	10.781	12.773	14.213	16.688		
90.0	25.000	25.000	22.500	22.500	13.333	13.333			90.0	11.192	13.768	17.833	15.269	25.917	26.100		
95.0	27.500	27.500	23.750	23.750	14.167	14.167			95.0	14.442	18.875	26.938	30.969	32.536	33.792		
99.0	29.500	29.500	24.750	24.750	14.833	14.833			99.0	20.775	31.550	35.775	35.775	38.310	38.793		
NO. OF									OBS.								
OBS.			10.			10.			OBS.			169.			169.		

FOR MONTH OF			MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			MARCH			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 300 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 300 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72			LEVELS	12	24	36	48	60	72		
1.0	-4.850	-4.475	-4.475	-4.475	-3.950	-3.950			1.0	-16.325	-15.100	-15.150	-19.217	-18.664	-21.325		
5.0	-4.250	-2.375	-2.375	-2.375	0.083	0.083			5.0	-9.875	-10.821	-11.750	-13.237	-14.229	-15.542		
10.0	-3.500	0.250	0.071	0.167	1.833	1.833			10.0	-7.250	-8.410	-8.765	-9.586	-11.167	-11.474		
25.0	-1.250	5.481	2.321	5.139	6.042	6.563			25.0	-2.981	-3.542	-3.255	-3.011	-3.775	-4.952		
50.0	1.591	7.500	5.938	8.056	10.625	14.167			50.0	1.667	3.370	5.000	5.094	3.804	2.821		
75.0	3.977	9.519	9.219	14.375	17.188	19.750			75.0	6.990	9.958	12.866	12.443	12.784	12.130		
90.0	7.250	13.167	17.250	24.750	34.500	36.500			90.0	13.042	18.150	22.000	19.696	20.214	21.867		
95.0	9.875	14.917	19.875	34.750	37.375	38.250			95.0	18.313	22.607	27.423	24.750	26.083	27.944		
99.0	13.950	18.950	38.950	38.950	39.475	39.650			99.0	24.118	33.433	37.060	35.100	37.550	36.325		
NO. OF									OBS.								
OBS.			21.			21.			OBS.			294.			294.		

TABLE IIb (cont'd)

FOR MONTH OF MARCH							INITIAL WIND SPEED 30 TO 40 (M/SEC)							FOR MONTH OF MARCH							INITIAL WIND SPEED 50 TO 60 (M/SEC)											
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS				PERCENT			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72					
1.0	-21.975	-24.809	-31.450	-31.975	-33.225	-30.725	1.0	-35.750	-35.750	-39.150	-39.469	-39.646	-39.717	1.0	-35.750	-35.750	-39.150	-39.469	-39.646	-39.717	1.0	-35.750	-35.750	-39.150	-39.469	-39.646	-39.717					
5.0	-13.028	-17.417	-19.676	-19.981	-23.028	-24.146	5.0	-23.125	-31.750	-35.750	-37.344	-38.229	-38.583	5.0	-23.125	-31.750	-35.750	-37.344	-38.229	-38.583	5.0	-23.125	-31.750	-35.750	-37.344	-38.229	-38.583					
10.0	-9.279	-11.773	-14.786	-16.692	-18.450	-20.583	10.0	-19.167	-26.875	-27.500	-34.375	-36.458	-37.167	10.0	-19.167	-26.875	-27.500	-34.375	-36.458	-37.167	10.0	-19.167	-26.875	-27.500	-34.375	-36.458	-37.167					
25.0	-4.229	-5.896	-7.598	-8.527	-9.550	-12.562	25.0	-11.058	-17.969	-17.422	-24.687	-29.107	-31.094	25.0	-11.058	-17.969	-17.422	-24.687	-29.107	-31.094	25.0	-11.058	-17.969	-17.422	-24.687	-29.107	-31.094					
50.0	0.357	0.455	-0.597	-0.965	-1.825	-3.500	50.0	-1.591	-8.611	-8.611	-12.250	-16.389	-19.318	50.0	-1.591	-8.611	-8.611	-12.250	-16.389	-19.318	50.0	-1.591	-8.611	-8.611	-12.250	-16.389	-19.318					
75.0	5.708	8.170	8.207	7.824	7.330	7.095	75.0	7.768	5.375	-0.083	-2.812	-6.625	-7.656	75.0	7.768	5.375	-0.083	-2.812	-6.625	-7.656	75.0	7.768	5.375	-0.083	-2.812	-6.625	-7.656					
90.0	11.115	16.118	16.333	17.429	18.143	17.722	90.0	14.643	12.188	11.875	11.833	4.375	-0.278	90.0	14.643	12.188	11.875	11.833	4.375	-0.278	90.0	14.643	12.188	11.875	11.833	4.375	-0.278					
95.0	14.404	22.438	22.438	26.500	26.750	24.045	95.0	18.125	14.844	17.917	23.750	12.188	13.750	95.0	18.125	14.844	17.917	23.750	12.188	13.750	95.0	18.125	14.844	17.917	23.750	12.188	13.750					
99.0	25.725	31.975	33.225	35.725	37.557	33.817	99.0	27.875	25.750	35.750	37.875	37.875	20.750	99.0	27.875	25.750	35.750	37.875	37.875	20.750	99.0	27.875	25.750	35.750	37.875	37.875	20.750					
NO. OF							NO. OF							NO. OF							NO. OF											
OBS.	342.	342.	342.	342.	342.	342.	OBS.	85.	85.	85.	85.	85.	85.	OBS.	85.	85.	85.	85.	85.	85.	OBS.	85.	85.	85.	85.	85.	85.					

FOR MONTH OF MARCH							INITIAL WIND SPEED 40 TO 50 (M/SEC)							FOR MONTH OF MARCH							INITIAL WIND SPEED 60 TO 70 (M/SEC)											
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS				PERCENT			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72					
1.0	-29.050	-29.762	-34.367	-36.033	-37.620	-38.678	1.0	-38.100	-39.525	-39.729	-39.827	-39.827	-39.842	1.0	-38.100	-39.525	-39.729	-39.827	-39.827	-39.842	1.0	-38.100	-39.525	-39.729	-39.827	-39.842	-39.842					
5.0	-17.562	-23.612	-26.167	-29.208	-32.346	-33.550	5.0	-32.750	-37.625	-38.643	-39.136	-39.208	-39.208	5.0	-32.750	-37.625	-38.643	-39.136	-39.136	-39.208	5.0	-32.750	-37.625	-38.643	-39.136	-39.208	-39.208					
10.0	-13.304	-17.769	-20.545	-23.675	-27.364	-28.286	10.0	-26.000	-35.250	-37.286	-38.273	-38.273	-38.417	10.0	-26.000	-35.250	-37.286	-38.273	-38.273	-38.417	10.0	-26.000	-35.250	-37.286	-38.273	-38.417	-38.417					
25.0	-7.437	-9.662	-12.426	-14.695	-17.891	-18.672	25.0	-17.187	-23.750	-24.687	-35.682	-36.042	-36.042	25.0	-17.187	-23.750	-24.687	-35.682	-35.682	-36.042	25.0	-17.187	-23.750	-24.687	-35.682	-36.042	-36.042					
50.0	-1.610	-2.283	-5.000	-7.308	-8.250	-9.219	50.0	-10.000	-14.266	-17.500	-18.750	-23.333	-27.000	50.0	-10.000	-14.266	-17.500	-18.750	-18.750	-23.333	50.0	-10.000	-14.266	-17.500	-18.750	-23.333	-27.000					
75.0	4.939	5.132	3.700	2.500	0.972	-0.357	75.0	-1.250	-5.625	-4.167	-7.500	-15.417	-18.214	75.0	-1.250	-5.625	-4.167	-7.500	-15.417	-18.214	75.0	-1.250	-5.625	-4.167	-7.500	-15.417	-18.214					
90.0	10.429	13.909	13.188	13.538	12.818	10.600	90.0	7.750	7.000	3.200	1.200	-3.000	-13.000	90.0	7.750	7.000	3.200	1.200	-3.000	-13.000	90.0	7.750	7.000	3.200	1.200	-3.000	-13.000					
95.0	14.679	18.227	18.389	19.500	19.438	16.722	95.0	10.250	10.250	5.250	3.100	0.250	-9.750	95.0	10.250	10.250	5.250	3.100	0.250	-9.750	95.0	10.250	10.250	5.250	3.100	0.250	-9.750					
99.0	22.700	26.550	28.275	31.550	36.033	31.550	99.0	14.050	14.050	9.050	4.620	4.050	-5.950	99.0	14.050	14.050	9.050	4.620	4.050	-5.950	99.0	14.050	14.050	9.050	4.620	4.050	-5.950					
NO. OF							NO. OF							NO. OF							NO. OF											
OBS.	238.	238.	238.	238.	238.	238.	OBS.	38.	38.	38.	38.	38.	38.	OBS.	38.	38.	38.	38.	38.	38.	OBS.	38.	38.	38.	38.	38.	38.					



TABLE IIIb (cont'd)

FOR MONTH OF		MARCH		INITIAL WIND SPEED 70 TO 80 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)	
ALTITUDE 6 TO 10 (KM)		6 TO 10 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72	
1.0		-39.650	-39.767	-39.683	-39.900	-39.936	-10.525
5.0		-38.250	-38.833	-39.417	-39.500	-39.682	-6.139
10.0		-36.500	-37.667	-38.833	-39.000	-39.364	-3.500
25.0		-31.250	-27.500	-28.750	-37.500	-38.409	1.453
50.0		-15.000	-10.000	-15.000	-20.000	-35.000	6.968
75.0		-1.250	7.500	7.500	-7.500	-21.250	6.371
90.0		6.500	14.000	14.000	-1.000	-12.000	13.708
95.0		8.250	31.500	16.500	6.500	-8.500	15.869
99.0		9.650	34.300	19.300	9.300	-5.700	22.929
NO. OF							
OBS.		14.	14.	14.	14.	14.	179.

TABLE IIib (cont'd)

FOR MONTH OF MARCH					INITIAL WIND SPEED 30 TO 40 (M/SEC)					FOR MONTH OF MARCH					INITIAL WIND SPEED 50 TO 60 (M/SEC)					
ALTIMITUDE 6 TO 10 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					ALTIMITUDE 6 TO 10 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)					ALTIMITUDE 6 TO 10 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					
PERCENT					ELAPSED TIME IN HOURS					PERCENT					ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72			
1.0	-18.858	-24.815	-27.630	-27.192	-25.787	-26.630	1.0	-26.500	-33.833	-39.500	-39.562	-39.300	-39.125	1.0	-26.500	-33.833	-39.500	-39.562	-39.300	-39.125
5.0	-12.234	-17.594	-20.068	-19.162	-19.230	-19.352	5.0	-19.318	-29.593	-37.500	-37.812	-36.500	-35.625	5.0	-19.318	-29.593	-37.500	-37.812	-36.500	-35.625
10.0	-9.242	-12.883	-14.518	-14.671	-15.860	-15.523	10.0	-17.727	-26.667	-35.000	-35.625	-33.000	-30.000	10.0	-17.727	-26.667	-35.000	-35.625	-33.000	-30.000
25.0	-5.293	-7.691	-8.143	-8.925	-8.866	-6.437	25.0	-12.750	-18.611	-20.937	-20.625	-24.375	-19.250	25.0	-12.750	-18.611	-20.937	-20.625	-24.375	-19.250
50.0	-1.646	-2.083	-2.118	-2.179	-1.920	-1.089	50.0	-7.391	-11.944	-11.538	-13.333	-12.000	-12.000	50.0	-7.391	-11.944	-11.538	-13.333	-12.000	-12.000
75.0	3.552	4.242	4.479	6.449	7.241	7.639	75.0	-2.292	-5.227	-3.958	-5.833	-1.591	-2.812	75.0	-2.292	-5.227	-3.958	-5.833	-1.591	-2.812
90.0	8.756	9.302	11.658	13.712	14.438	17.325	90.0	10.000	5.000	5.000	7.500	7.500	6.000	90.0	10.000	5.000	5.000	7.500	7.500	6.000
95.0	11.922	13.625	16.596	18.172	18.538	22.563	95.0	13.500	9.375	9.375	12.500	9.688	22.500	95.0	13.500	9.375	9.375	12.500	9.688	22.500
99.0	18.630	23.288	24.630	27.038	27.717	35.788	99.0	21.500	31.500	18.250	26.500	26.500	31.500	99.0	21.500	31.500	18.250	26.500	26.500	31.500
NO. OF	337.	337.	337.	337.	337.	337.	NO. OF	70.	70.	70.	70.	70.	70.	NO. OF	70.	70.	70.	70.	70.	70.
OBS.	337.	337.	337.	337.	337.	337.	OBS.	70.	70.	70.	70.	70.	70.	OBS.	70.	70.	70.	70.	70.	70.

FOR MONTH OF MARCH					INITIAL WIND SPEED 40 TO 50 (M/SEC)					FOR MONTH OF MARCH					INITIAL WIND SPEED 60 TO 70 (M/SEC)					
ALTIMITUDE 6 TO 10 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					ALTIMITUDE 6 TO 10 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)					ALTIMITUDE 6 TO 10 (KM)					INITIAL DIRECTION 270 TO 315 (DEG)					
PERCENT					ELAPSED TIME IN HOURS					PERCENT					ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72			
1.0	-30.100	-34.200	-33.800	-36.733	-35.100	-33.040	1.0	-38.800	-39.400	-39.800	-39.760	-39.760	1.0	-38.800	-39.400	-39.800	-39.760	-39.760	-39.760	-39.760
5.0	-20.167	-27.200	-26.000	-28.200	-29.200	-27.600	5.0	-29.000	-37.000	-39.000	-39.000	-38.800	-38.800	5.0	-29.000	-37.000	-39.000	-39.000	-38.800	-38.800
10.0	-14.870	-19.769	-20.700	-21.700	-19.652	-23.231	10.0	-24.000	-34.000	-38.000	-38.000	-37.600	-37.600	10.0	-24.000	-34.000	-38.000	-38.000	-37.600	-37.600
25.0	-9.000	-11.731	-13.065	-13.824	-13.182	-13.929	25.0	-15.000	-22.500	-35.000	-35.000	-30.000	-33.333	25.0	-15.000	-22.500	-35.000	-35.000	-30.000	-33.333
50.0	-3.279	-5.852	-6.667	-6.515	-5.000	-6.143	50.0	-10.000	-14.000	-18.333	-20.000	-21.250	-22.500	50.0	-10.000	-14.000	-18.333	-20.000	-21.250	-22.500
75.0	1.607	1.154	0.263	2.759	2.381	2.500	75.0	-5.000	-5.000	-9.000	-10.000	-15.000	-10.000	75.0	-5.000	-5.000	-9.000	-10.000	-15.000	-10.000
90.0	8.467	7.350	8.353	8.727	10.200	12.000	90.0	-0.500	6.500	5.400	-7.000	1.500	-4.000	90.0	-0.500	6.500	5.400	-7.000	1.500	-4.000
95.0	12.889	9.800	12.333	13.500	15.167	17.000	95.0	4.000	9.500	7.000	-6.000	4.500	-2.000	95.0	4.000	9.500	7.000	-6.000	4.500	-2.000
99.0	20.100	21.733	18.600	21.733	23.400	26.733	99.0	38.800	33.800	9.400	-5.200	18.800	-0.400	99.0	38.800	33.800	9.400	-5.200	18.800	-0.400
NO. OF	196.	196.	196.	196.	196.	196.	NO. OF	24.	24.	24.	24.	24.	24.	NO. OF	24.	24.	24.	24.	24.	24.
OBS.	196.	196.	196.	196.	196.	196.	OBS.	24.	24.	24.	24.	24.	24.	OBS.	24.	24.	24.	24.	24.	24.

TABLE IIb (cont'd)

FOR MONTH OF		MARCH		INITIAL WIND SPEED		10 TO		20 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		315 TO		360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72		
1.0		-9.725	-4.817	-4.725	0.550	-4.450	0.183		
5.0		-8.625	-4.083	-3.625	2.750	-2.250	0.917		
10.0		-7.250	-3.167	-2.250	5.167	0.250	1.833		
25.0		-4.250	-0.417	3.750	7.917	4.375	4.583		
50.0		-1.500	4.167	10.625	11.500	9.167	8.125		
75.0		3.125	8.750	14.062	14.250	18.125	26.250		
90.0		7.250	12.250	17.250	17.250	24.500	32.250		
95.0		8.625	13.625	18.625	18.625	27.250	33.625		
99.0		9.725	14.725	19.725	19.725	29.450	34.725		
NO. OF		11.	11.	11.	11.	11.	11.		
OBS.		11.	11.	11.	11.	11.	11.		

TABLE IIIC

March, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MARCH								INITIAL WIND SPEED 10 TO 20 (M/SEC)								FOR MONTH OF MARCH								INITIAL WIND SPEED 30 TO 40 (M/SEC)							
ALTITUDE 11 TO 15 (KM)								INITIAL DIRECTION 225 TO 270 (DEG)								ALTITUDE 11 TO 15 (KM)								INITIAL DIRECTION 225 TO 270 (DEG)							
PERCENT								WIND SPEED CHANGE VALUES (M/SEC)								PERCENT								WIND SPEED CHANGE VALUES (M/SEC)							
ELAPSED TIME IN HOURS								ELAPSED TIME IN HOURS								ELAPSED TIME IN HOURS								ELAPSED TIME IN HOURS							
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.575	-13.300	-4.575	-4.150	-4.575	-6.300	-8.300	1.0	-18.700	-19.960	-22.450	-24.960	-24.133	-24.978	-24.978	1.0	-18.700	-19.960	-22.450	-24.960	-24.133	-24.978	-24.978	1.0	-18.700	-19.960	-22.450	-24.960	-24.133	-24.978	-24.978
5.0	-7.875	-3.833	-2.875	-0.750	-2.875	-3.250	-3.250	5.0	-11.714	-13.364	-14.111	-16.000	-16.727	-19.111	-19.111	5.0	-11.714	-13.364	-14.111	-16.000	-16.727	-19.111	-19.111	5.0	-11.714	-13.364	-14.111	-16.000	-16.727	-19.111	-19.111
10.0	-5.750	-1.000	-0.750	1.750	-0.750	0.667	0.667	10.0	-7.920	-9.931	-9.941	-10.533	-12.286	-14.923	-14.923	10.0	-7.920	-9.931	-9.941	-10.533	-12.286	-14.923	-14.923	10.0	-7.920	-9.931	-9.941	-10.533	-12.286	-14.923	-14.923
25.0	0.278	3.214	4.500	6.389	7.500	10.625	10.625	25.0	-2.687	-3.229	-3.667	-4.018	-4.898	-6.429	-6.429	25.0	-2.687	-3.229	-3.667	-4.018	-4.898	-6.429	-6.429	25.0	-2.687	-3.229	-3.667	-4.018	-4.898	-6.429	-6.429
50.0	5.000	9.286	11.000	15.000	15.000	23.000	23.000	50.0	2.941	4.327	4.674	5.000	3.784	3.289	3.289	50.0	2.941	4.327	4.674	5.000	3.784	3.289	3.289	50.0	2.941	4.327	4.674	5.000	3.784	3.289	3.289
75.0	13.125	16.875	22.500	25.833	26.750	31.875	31.875	75.0	8.692	10.972	13.438	15.000	14.286	14.483	14.483	75.0	8.692	10.972	13.438	15.000	14.286	14.483	14.483	75.0	8.692	10.972	13.438	15.000	14.286	14.483	14.483
90.0	18.600	24.333	34.333	33.250	34.500	37.167	37.167	90.0	14.206	19.682	23.429	25.783	23.500	24.538	24.538	90.0	14.206	19.682	23.429	25.783	23.500	24.538	24.538	90.0	14.206	19.682	23.429	25.783	23.500	24.538	24.538
95.0	21.500	28.250	37.167	35.750	37.167	38.583	38.583	95.0	17.882	25.818	29.909	29.087	28.267	30.571	30.571	95.0	17.882	25.818	29.909	29.087	28.267	30.571	30.571	95.0	17.882	25.818	29.909	29.087	28.267	30.571	30.571
99.0	33.300	33.300	39.433	39.150	39.433	39.717	39.717	99.0	24.960	32.960	38.311	36.200	36.960	38.311	38.311	99.0	24.960	32.960	38.311	36.200	36.960	38.311	38.311	99.0	24.960	32.960	38.311	36.200	36.960	38.311	38.311
NO. OF OBS.	34.	34.	34.	34.	34.	34.	34.	NO. OF OBS.	304.	304.	304.	304.	304.	304.	304.	NO. OF OBS.	304.	304.	304.	304.	304.	304.	304.	NO. OF OBS.	304.	304.	304.	304.	304.	304.	304.

FOR MONTH OF MARCH								INITIAL WIND SPEED 20 TO 30 (M/SEC)								FOR MONTH OF MARCH								INITIAL WIND SPEED 40 TO 50 (M/SEC)							
ALTITUDE 11 TO 15 (KM)								INITIAL DIRECTION 225 TO 270 (DEG)								ALTITUDE 11 TO 15 (KM)								INITIAL DIRECTION 225 TO 270 (DEG)							
PERCENT								WIND SPEED CHANGE VALUES (M/SEC)								PERCENT								WIND SPEED CHANGE VALUES (M/SEC)							
ELAPSED TIME IN HOURS								ELAPSED TIME IN HOURS								ELAPSED TIME IN HOURS								ELAPSED TIME IN HOURS							
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-14.437	-18.792	-17.583	-13.964	-13.964	-13.187	-12.750	1.0	-21.067	-24.640	-27.733	-32.050	-35.800	-35.800	-35.800	1.0	-21.067	-24.640	-27.733	-32.050	-35.800	-35.800	-35.800	1.0	-21.067	-24.640	-27.733	-32.050	-35.800	-35.800	-35.800
5.0	-8.977	-12.917	-10.750	-9.904	-8.750	-7.981	-7.981	5.0	-13.964	-17.556	-18.739	-21.333	-23.100	-24.182	-24.182	5.0	-13.964	-17.556	-18.739	-21.333	-23.100	-24.182	-24.182	5.0	-13.964	-17.556	-18.739	-21.333	-23.100	-24.182	-24.182
10.0	-5.682	-8.281	-7.045	-7.115	-5.962	-5.192	-5.192	10.0	-10.964	-13.733	-15.087	-17.385	-16.214	-18.643	-18.643	10.0	-10.964	-13.733	-15.087	-17.385	-16.214	-18.643	-18.643	10.0	-10.964	-13.733	-15.087	-17.385	-16.214	-18.643	-18.643
25.0	-2.022	-1.691	0.050	-0.221	1.417	1.635	1.635	25.0	-6.311	-6.937	-7.963	-8.667	-9.237	-11.154	-11.154	25.0	-6.311	-6.937	-7.963	-8.667	-9.237	-11.154	-11.154	25.0	-6.311	-6.937	-7.963	-8.667	-9.237	-11.154	-11.154
50.0	2.885	5.608	6.382	10.795	10.521	13.472	13.472	50.0	-0.952	-0.658	-0.593	-1.337	-1.731	-3.229	-3.229	50.0	-0.952	-0.658	-0.593	-1.337	-1.731	-3.229	-3.229	50.0	-0.952	-0.658	-0.593	-1.337	-1.731	-3.229	-3.229
75.0	7.821	11.250	16.146	19.698	19.609	22.829	22.829	75.0	6.321	7.667	8.919	9.372	10.135	8.333	8.333	75.0	6.321	7.667	8.919	9.372	10.135	8.333	8.333	75.0	6.321	7.667	8.919	9.372	10.135	8.333	8.333
90.0	13.250	19.038	25.417	27.500	29.792	30.313	30.313	90.0	12.111	17.100	17.333	16.941	18.789	17.714	17.714	90.0	12.111	17.100	17.333	16.941	18.789	17.714	17.714	90.0	12.111	17.100	17.333	16.941	18.789	17.714	17.714
95.0	17.679	22.639	31.458	33.750	34.219	34.844	34.844	95.0	15.462	22.600	23.273	25.837	25.837	25.100	25.100	95.0	15.462	22.600	23.273	25.837	25.837	25.100	25.100	95.0	15.462	22.600	23.273	25.837	25.837	25.100	25.100
99.0	23.188	32.750	37.583	38.792	38.792	38.964	38.964	99.0	22.733	33.033	33.033	35.800	35.800	36.640	36.640	99.0	22.733	33.033	33.033	35.800	35.800	36.640	36.640	99.0	22.733	33.033	33.033	35.800	35.800	36.640	36.640
NO. OF OBS.	145.	145.	145.	145.	145.	145.	145.	NO. OF OBS.	336.	336.	336.	336.	336.	336.	336.	NO. OF OBS.	336.	336.	336.	336.	336.	336.	336.	NO. OF OBS.	336.	336.	336.	336.	336.	336.	336.

TABLE IIIc (cont'd)

FOR MONTH OF MARCH			INITIAL WIND SPEED 50 TO 60 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 70 TO 80 (M/SEC)			
ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-26.687	-24.812	-29.755	-34.592	-38.444	-38.221	1.0	-29.367	-39.050	-39.762	-39.854	-39.881
5.0	-19.275	-20.981	-24.795	-26.821	-31.292	-32.523	5.0	-26.833	-35.250	-38.812	-39.269	-39.406
10.0	-14.391	-18.096	-19.648	-22.088	-26.367	-27.125	10.0	-24.200	-30.500	-37.625	-38.538	-38.812
25.0	-8.715	-11.875	-13.345	-14.094	-16.845	-16.435	25.0	-17.500	-24.643	-33.500	-36.346	-37.031
50.0	-1.520	-3.403	-5.192	-6.014	-6.786	-7.426	50.0	-8.333	-16.250	-20.000	-27.857	-30.000
75.0	6.144	5.799	4.350	3.438	4.115	5.125	75.0	0.500	-1.875	-4.375	-12.500	-15.833
90.0	10.423	12.536	12.395	10.500	11.292	12.893	90.0	10.333	10.500	11.000	5.500	1.000
95.0	15.393	17.775	19.250	17.125	17.219	18.639	95.0	13.500	20.500	17.750	10.500	10.500
99.0	24.388	24.592	32.517	29.388	29.183	35.850	99.0	18.100	28.100	38.100	33.100	23.100
NO. OF							NO. OF					
OBS.	249.	249.	249.	249.	249.	249.	OBS.	38.	38.	38.	38.	38.

FOR MONTH OF MARCH			INITIAL WIND SPEED 60 TO 70 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 80 TO 90 (M/SEC)			
ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-29.600	-38.550	-39.171	-39.033	-39.420	-39.473	1.0	-39.150	-39.717	-39.787	-39.879	-39.906
5.0	-24.000	-32.000	-35.857	-35.167	-37.100	-37.364	5.0	-35.750	-38.583	-38.937	-39.393	-39.528
10.0	-21.929	-27.700	-29.000	-30.333	-33.667	-34.625	10.0	-31.500	-37.167	-37.875	-38.786	-39.150
25.0	-13.667	-19.091	-20.833	-22.727	-20.556	-24.000	25.0	-23.750	-28.750	-34.375	-36.964	-37.639
50.0	-6.786	-10.000	-12.333	-12.857	-15.333	-15.227	50.0	-8.500	-9.167	-17.500	-26.250	-35.278
75.0	0.	-1.538	-2.500	-2.500	-5.000	-3.571	75.0	-3.125	-2.083	-2.083	3.750	1.875
90.0	9.667	10.500	11.167	16.167	9.250	11.750	90.0	6.500	8.250	11.500	10.750	8.500
95.0	14.333	18.667	16.500	22.000	26.000	23.000	95.0	10.750	15.750	15.750	12.875	10.750
99.0	24.733	29.200	34.200	37.100	37.100	38.067	99.0	14.150	19.150	19.150	14.575	14.150
NO. OF							NO. OF					
OBS.	116.	116.	116.	116.	116.	116.	OBS.	17.	17.	17.	17.	17.

TABLE IIIc (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)				
ALTITUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72	
1.0	-9.175	-4.870	0.825	-4.450	-13.350	-9.175	1.0	-14.586	-15.225	-20.225	-20.225	-16.862	-16.817
5.0	-5.875	-3.350	4.125	-2.250	-6.750	-5.875	5.0	-9.796	-11.961	-12.779	-13.490	-13.037	-11.897
10.0	-3.917	-1.700	6.083	0.500	0.500	1.500	10.0	-7.882	-9.317	-9.987	-10.580	-9.890	-8.905
25.0	0.139	4.083	10.139	10.250	6.750	12.083	25.0	-3.721	-5.120	-4.576	-5.571	-5.525	-3.582
50.0	4.722	11.786	14.722	20.357	20.500	23.500	50.0	0.651	1.680	2.389	2.350	3.526	4.931
75.0	13.958	18.125	21.250	26.750	30.938	35.417	75.0	6.250	8.878	10.787	12.824	14.871	14.414
90.0	18.083	29.250	34.250	34.250	36.700	38.167	90.0	13.457	16.553	19.019	22.868	23.028	24.676
95.0	19.458	33.375	37.250	37.250	38.350	39.083	95.0	17.865	20.806	23.635	29.607	27.865	31.813
99.0	23.350	38.350	39.450	39.450	39.670	39.817	99.0	27.725	30.225	36.363	37.575	37.575	38.787
NO. OF							NO. OF						
OBS.	33.	33.	33.	33.	33.	33.	OBS.	291.	291.	291.	291.	291.	291.

FOR MONTH OF			MARCH			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 40 TO 50 (M/SEC)				
ALTITUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72	
1.0	-16.900	-14.760	-13.760	-12.933	-9.760	-9.800	1.0	-22.529	-26.850	-27.540	-24.233	-23.462	-25.675
5.0	-9.214	-9.857	-9.000	-6.800	-4.833	-5.667	5.0	-14.750	-17.136	-19.477	-18.052	-18.703	-18.648
10.0	-7.000	-5.429	-4.533	-2.800	0.154	0.250	10.0	-11.423	-12.968	-15.545	-15.069	-16.000	-15.444
25.0	-3.088	-1.087	0.806	3.421	6.071	6.964	25.0	-6.164	-7.061	-8.110	-8.657	-8.287	-9.148
50.0	1.471	4.194	6.316	9.808	12.143	13.043	50.0	-0.549	0.833	-0.704	-1.210	-0.887	-0.614
75.0	7.692	12.500	17.500	19.615	21.500	23.438	75.0	6.473	8.773	8.063	7.992	8.908	8.611
90.0	15.429	23.455	28.300	32.000	35.371	33.500	90.0	12.138	14.800	16.909	16.588	16.762	16.143
95.0	19.857	27.800	32.800	35.571	37.786	36.900	95.0	15.233	18.925	21.233	22.192	22.056	19.232
99.0	33.800	37.933	38.450	39.114	39.557	39.380	99.0	19.847	27.567	28.175	31.925	34.540	35.675
NO. OF							NO. OF						
OBS.	124.	124.	124.	124.	124.	124.	OBS.	346.	346.	346.	346.	346.	346.

TABLE IIIc (cont'd)

FOR MONTH OF MARCH				INITIAL WIND SPEED 50 TO 60 (M/SEC)				FOR MONTH OF MARCH				INITIAL WIND SPEED 70 TO 80 (M/SEC)								
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)								
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-23.950	-28.425	-28.117	-33.425	-33.740	-36.233	1.0	-33.350	-39.450	-39.670	-39.670	-39.670	-39.794	1.0	-33.350	-39.450	-39.670	-39.670	-39.670	-39.794
5.0	-18.208	-21.500	-23.107	-26.062	-24.906	-24.875	5.0	-28.375	-37.250	-38.350	-38.350	-38.350	-38.969	5.0	-28.375	-37.250	-38.350	-38.350	-38.350	-38.969
10.0	-14.100	-18.407	-19.316	-21.000	-21.375	-20.167	10.0	-24.250	-34.250	-36.700	-36.700	-36.700	-37.937	10.0	-24.250	-34.250	-36.700	-36.700	-36.700	-37.937
25.0	-8.177	-11.900	-12.083	-12.130	-13.214	-13.716	25.0	-15.937	-23.750	-29.375	-30.937	-30.937	-29.792	25.0	-15.937	-23.750	-29.375	-30.937	-30.937	-29.792
50.0	-2.869	-4.444	-5.686	-4.535	-4.833	-5.606	50.0	-8.214	-14.687	-16.500	-21.786	-20.833	-21.875	50.0	-8.214	-14.687	-16.500	-21.786	-20.833	-21.875
75.0	3.707	3.173	2.596	4.167	5.521	4.239	75.0	-2.321	-6.250	-9.062	-12.812	-14.062	-13.125	75.0	-2.321	-6.250	-9.062	-12.812	-14.062	-13.125
90.0	9.552	9.357	11.545	11.500	13.444	13.789	90.0	4.250	-0.300	1.750	3.500	2.833	-1.500	90.0	4.250	-0.300	1.750	3.500	2.833	-1.500
95.0	12.719	13.850	16.850	14.639	18.563	18.350	95.0	8.375	6.750	11.750	7.250	6.750	6.750	95.0	8.375	6.750	11.750	7.250	6.750	6.750
99.0	17.900	31.233	23.425	29.350	34.350	28.740	99.0	13.350	13.350	23.350	9.450	13.350	23.350	99.0	13.350	13.350	23.350	9.450	13.350	23.350
NO. OF				NO. OF				NO. OF				NO. OF								
OBS.				OBS.				OBS.				OBS.								
226.				226.				226.				226.								
226.				226.				226.				226.								

FOR MONTH OF MARCH				INITIAL WIND SPEED 60 TO 70 (M/SEC)				FOR MONTH OF MARCH				INITIAL WIND SPEED 80 TO 90 (M/SEC)								
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)								
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-34.450	-34.890	-34.862	-34.450	-38.150	-38.150	1.0	-34.350	-39.783	-39.837	-39.870	-39.837	-39.892	1.0	-34.350	-39.783	-39.837	-39.870	-39.837	-39.892
5.0	-21.812	-30.450	-29.450	-27.042	-29.788	-32.875	5.0	-31.750	-38.917	-39.187	-39.350	-39.187	-39.458	5.0	-31.750	-38.917	-39.187	-39.350	-39.187	-39.458
10.0	-16.583	-19.964	-24.389	-24.139	-27.654	-28.950	10.0	-19.250	-37.833	-38.375	-38.700	-38.375	-38.917	10.0	-19.250	-37.833	-38.375	-38.700	-38.375	-38.917
25.0	-10.903	-14.276	-17.083	-19.453	-20.937	-21.875	25.0	-14.375	-28.750	-35.937	-36.750	-35.937	-37.292	25.0	-14.375	-28.750	-35.937	-36.750	-35.937	-37.292
50.0	-5.463	-6.974	-8.833	-11.625	-12.614	-13.500	50.0	-4.167	-17.500	-26.875	-25.750	-27.500	-13.750	50.0	-4.167	-17.500	-26.875	-25.750	-27.500	-13.750
75.0	1.771	0.208	1.645	-3.194	-5.724	-5.208	75.0	1.875	-3.750	-16.250	-11.250	-6.250	-3.125	75.0	1.875	-3.750	-16.250	-11.250	-6.250	-3.125
90.0	9.944	11.357	8.900	7.900	3.450	4.900	90.0	13.500	-0.500	-1.500	-1.500	3.500	3.500	90.0	13.500	-0.500	-1.500	-1.500	3.500	3.500
95.0	16.036	15.750	16.208	16.125	9.083	12.042	95.0	16.750	1.750	6.750	1.750	6.750	6.750	95.0	16.750	1.750	6.750	1.750	6.750	6.750
99.0	19.207	29.725	19.908	24.817	19.450	17.225	99.0	19.350	4.350	9.350	4.350	9.350	9.350	99.0	19.350	4.350	9.350	4.350	9.350	9.350
NO. OF				NO. OF				NO. OF				NO. OF								
OBS.				OBS.				OBS.				OBS.								
111.				111.				111.				111.								
111.				111.				111.				111.								

TABLE IIId

March, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			ELAPSED TIME IN HOURS			LEVELS			ELAPSED TIME IN HOURS		
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-0.950	-0.950	-0.950	-0.950	-4.737	-4.737	-4.737	-4.737	-4.737	-4.775	-4.775
5.0	-4.950	-4.917	-4.937	-4.950	-3.687	-3.687	-3.687	-3.687	-3.675	-3.675	-3.675
10.0	-3.900	-3.167	-3.625	-3.900	-2.375	-2.375	-2.375	-2.375	-2.750	-2.750	-2.750
25.0	-0.750	0.781	0.156	-0.750	1.250	1.042	1.042	1.042	0.313	0.313	0.417
50.0	2.500	4.063	3.438	5.938	6.071	5.417	5.417	5.417	3.125	3.125	4.167
75.0	5.750	8.750	7.750	9.219	9.821	9.792	9.792	9.792	10.625	10.625	7.917
90.0	8.900	14.750	17.250	22.250	13.625	13.625	13.625	13.625	14.000	16.000	20.500
95.0	9.950	19.750	19.875	24.875	14.938	14.938	14.938	14.938	25.500	30.500	22.750
99.0	23.950	23.950	23.950	26.950	26.950	26.950	26.950	26.950	29.550	34.100	24.550
NO. OF OBS.	21.	21.	21.	21.	21.	NO. OF OBS.	18.	18.	18.	18.	18.

FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			ELAPSED TIME IN HOURS			LEVELS			ELAPSED TIME IN HOURS		
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-4.625	-4.850	-4.812	-9.250	-4.750	1.0	-4.850	-9.100	-9.100	-9.100	-9.550
5.0	-3.125	-4.250	-4.062	-6.250	-3.750	5.0	-4.250	-5.500	-5.500	-5.500	-7.750
10.0	-1.250	-3.500	-3.125	-4.167	-2.500	10.0	-3.500	-3.667	-2.000	-4.200	-5.500
25.0	1.458	-1.250	-0.312	-0.417	-1.562	25.0	-1.250	0.417	2.500	-1.500	-2.500
50.0	4.583	2.500	4.375	3.500	3.125	50.0	3.000	4.167	6.667	2.500	3.333
75.0	13.125	7.083	10.625	7.250	6.750	75.0	7.500	9.375	9.167	9.750	10.633
90.0	16.750	12.500	22.500	5.500	31.250	90.0	11.000	13.667	15.500	16.000	13.667
95.0	21.250	26.250	26.250	36.250	33.125	95.0	15.500	15.500	17.750	20.500	15.500
99.0	24.250	29.250	29.250	39.250	34.625	99.0	19.100	19.100	19.550	24.100	19.100
NO. OF OBS.	15.	15.	15.	15.	15.	NO. OF OBS.	16.	16.	16.	16.	16.



TABLE IIId (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-7.000	-4.812	-8.500	-4.769	-7.000	-9.000	-9.000		1.0	-8.425	-9.212	-8.425	-8.425	-8.650	-8.110	-9.055	
5.0	-4.375	-4.062	-4.722	-3.846	-4.333	-5.000	-5.000		5.0	-4.770	-6.062	-4.743	-4.743	-4.773	-4.652	-5.275	
10.0	-3.437	-3.125	-3.889	-2.692	-3.333	-3.929	-3.929		10.0	-4.140	-4.461	-4.037	-4.037	-3.898	-3.914	-3.887	
25.0	-0.625	-0.312	-1.389	0.588	-0.333	-0.714	-0.714		25.0	-2.250	-2.246	-1.922	-1.922	-1.273	-1.699	-0.344	
50.0	2.500	3.889	5.000	5.000	4.118	3.824	3.824		50.0	1.144	1.713	1.792	1.792	2.702	2.602	3.048	
75.0	5.833	8.929	12.000	10.625	10.000	10.000	10.000		75.0	5.257	6.469	6.326	6.326	7.604	7.969	7.841	
90.0	9.583	18.333	18.750	17.000	17.500	18.000	18.000		90.0	9.426	10.063	12.050	12.050	13.700	14.033	16.100	
95.0	17.500	25.000	23.333	20.000	21.667	25.000	25.000		95.0	13.469	17.583	18.550	18.550	19.625	18.639	22.523	
99.0	28.500	29.000	32.000	32.000	27.000	29.000	29.000		99.0	20.550	32.775	27.775	27.775	32.775	30.550	30.550	
NO. OF	60.	60.	60.	60.	60.	60.	60.		NO. OF	189.	189.	189.	189.	189.	189.	189.	
OBS.	60.	60.	60.	60.	60.	60.	60.		OBS.	189.	189.	189.	189.	189.	189.	189.	

FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-14.583	-14.375	-14.583	-14.687	-14.583	-14.375	-14.375		1.0	-13.314	-14.153	-14.153	-14.153	-14.458	-14.550	-14.533	
5.0	-12.917	-11.875	-12.917	-13.437	-12.917	-11.875	-11.875		5.0	-9.301	-9.859	-9.859	-10.784	-11.490	-10.645	-11.974	
10.0	-10.833	-9.500	-10.833	-11.875	-10.833	-9.375	-9.375		10.0	-7.583	-8.173	-8.173	-8.856	-9.196	-8.636	-9.445	
25.0	-4.375	-5.750	-3.750	-6.250	-4.375	-4.583	-4.583		25.0	-3.824	-4.030	-4.030	-4.765	-5.163	-4.315	-5.098	
50.0	-1.250	-0.417	4.167	7.500	5.625	6.500	6.500		50.0	0.145	0.445	0.445	-0.173	-0.286	1.008	0.560	
75.0	4.688	12.188	13.393	16.964	14.583	13.438	13.438		75.0	5.701	6.849	7.843	7.843	8.047	8.862	8.274	
90.0	16.250	16.875	22.500	15.643	22.500	21.250	21.250		90.0	9.917	12.271	13.803	14.731	15.604	14.581	14.581	
95.0	19.375	18.437	26.875	23.750	24.583	24.375	24.375		95.0	13.793	16.817	17.625	18.917	19.469	19.828	19.828	
99.0	23.750	19.687	29.375	28.750	28.750	28.750	28.750		99.0	22.150	23.779	24.493	24.288	25.363	27.863	27.863	
NO. OF	25.	25.	25.	25.	25.	25.	25.		NO. OF	371.	371.	371.	371.	371.	371.	371.	
OBS.	25.	25.	25.	25.	25.	25.	25.		OBS.	371.	371.	371.	371.	371.	371.	371.	

TABLE IIId (cont'd)

FOR MONTH OF MARCH			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 40 TO 50 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-21.117	-21.670	-21.670	-21.670	-23.706	1.0	-26.200	-33.200	-33.200	-34.100	-36.200
5.0	-13.783	-13.992	-16.117	-16.934	-18.250	5.0	-16.000	-23.000	-26.000	-30.900	-31.000
10.0	-9.384	-11.470	-13.100	-13.591	-14.434	10.0	-14.625	-19.750	-24.000	-28.000	-28.000
25.0	-4.417	-6.530	-7.478	-7.083	-8.375	25.0	-11.250	-17.900	-17.857	-20.000	-22.000
50.0	-0.452	-0.321	-0.451	-0.700	-1.920	50.0	-6.818	-12.500	-12.727	-12.500	-13.125
75.0	5.060	6.674	6.250	6.060	5.540	75.0	-0.833	-5.714	-6.125	-7.500	-6.571
90.0	9.089	11.981	13.278	12.362	12.548	90.0	6.000	-1.857	-4.000	-2.687	-4.333
95.0	11.574	15.175	17.297	15.844	16.868	95.0	10.500	-0.571	0.500	6.000	0.500
99.0	17.088	22.621	26.675	31.117	24.670	99.0	14.100	3.200	4.100	13.200	4.100
NO. OF OBS.	333.	333.	333.	333.	333.	NO. OF OBS.	36.	36.	36.	36.	36.

FOR MONTH OF MARCH			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.021	-27.187	-29.792	-28.958	-31.250	1.0	-8.636	-6.090	-9.318	-6.939	-9.045
5.0	-14.511	-18.594	-22.679	-23.583	-23.250	5.0	-4.623	-4.701	-6.589	-4.956	-7.016
10.0	-12.065	-13.900	-17.794	-19.833	-19.687	10.0	-4.160	-4.072	-4.536	-4.185	-4.718
25.0	-7.244	-6.681	-10.509	-11.150	-11.562	25.0	-2.170	-2.187	-1.932	-1.875	-2.114
50.0	-2.148	-3.602	-4.611	-5.647	-5.479	50.0	1.310	1.229	2.325	2.402	2.311
75.0	3.423	2.218	2.107	3.880	0.445	75.0	5.160	5.524	7.156	7.872	7.831
90.0	8.203	9.853	7.613	7.875	6.184	90.0	8.633	10.281	11.967	12.932	13.861
95.0	9.961	13.859	10.938	12.292	10.938	95.0	10.450	13.566	15.375	15.563	16.406
99.0	18.750	24.593	21.675	19.792	19.107	99.0	22.725	18.483	30.225	24.090	25.225
NO. OF OBS.	225.	225.	225.	225.	225.	NO. OF OBS.	191.	191.	191.	191.	191.

TABLE IIId (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			PERCENT			PERCENT			PERCENT			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-13.885	-14.885	-14.103	-14.413	-14.707	-14.939	1.0	-25.525	-25.525	-26.050	-32.017	-28.721
5.0	-9.548	-9.728	-10.514	-11.013	-11.631	-11.539	5.0	-15.050	-18.232	-18.771	-22.542	-23.806
10.0	-8.132	-8.336	-8.628	-8.691	-9.051	-8.970	10.0	-12.033	-15.036	-15.042	-17.542	-19.025
25.0	-4.460	-4.492	-4.903	-4.210	-4.524	-4.314	25.0	-7.340	-9.208	-10.542	-11.010	-13.208
50.0	-1.038	-0.286	-0.417	0.551	-0.136	-0.028	50.0	-1.768	-2.434	-3.562	-5.062	-6.071
75.0	3.801	5.118	5.149	6.841	8.147	7.523	75.0	3.689	3.977	3.533	1.302	1.587
90.0	8.936	9.689	11.540	12.978	14.197	13.617	90.0	9.237	9.020	10.038	7.844	8.265
95.0	12.617	13.569	14.770	17.635	18.617	18.271	95.0	12.521	11.841	13.481	11.708	12.542
99.0	20.963	23.407	24.713	26.925	26.925	27.950	99.0	17.017	15.525	19.013	19.013	19.013
NO. OF							NO. OF					
OBS.	323.	323.	323.	323.	323.	323.	OBS.	179.	179.	179.	179.	179.

FOR MONTH OF			MARCH			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 40 TO 50 (M/SEC)			
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			PERCENT			PERCENT			PERCENT			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-21.450	-22.700	-24.300	-23.467	-23.686	-23.978	1.0	-26.650	-26.650	-31.650	-31.650	-29.330
5.0	-14.500	-16.714	-17.786	-18.364	-18.450	-18.833	5.0	-21.083	-21.083	-26.083	-26.083	-26.650
10.0	-11.273	-13.531	-13.897	-15.136	-14.944	-14.946	10.0	-14.708	-18.650	-22.300	-22.300	-24.150
25.0	-6.696	-8.333	-7.826	-8.241	-9.364	-9.434	25.0	-10.521	-14.018	-17.417	-16.125	-19.271
50.0	-2.111	-2.281	-1.591	-1.897	-2.653	-2.073	50.0	-6.125	-8.036	-11.833	-10.735	-11.750
75.0	3.113	4.091	5.714	5.000	6.406	7.344	75.0	0.114	-1.827	-3.958	-3.875	-5.583
90.0	8.139	10.158	12.625	13.400	13.630	14.000	90.0	4.682	6.643	3.786	3.833	2.300
95.0	10.400	13.895	16.400	17.786	17.833	18.250	95.0	8.313	9.036	7.063	8.313	8.250
99.0	17.700	20.800	30.400	27.900	27.900	30.400	99.0	16.650	26.650	26.650	26.650	26.650
NO. OF							NO. OF					
OBS.	284.	284.	284.	284.	284.	284.	OBS.	67.	67.	67.	67.	67.

TABLE IIId (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 50 TO 60 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 16 TO 20 (KM)			20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)			
						WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72
1.0	-24.400	-39.700	-39.400	-39.700	-39.800	-39.700	1.0	-9.400	-9.400	-9.800	-14.400	-14.400
5.0	-32.000	-36.500	-37.000	-36.500	-39.000	-36.500	5.0	-7.000	-7.000	-9.000	-12.000	-12.000
10.0	-24.000	-37.000	-34.000	-37.000	-36.000	-37.000	10.0	-4.800	-4.857	-6.000	-9.500	-4.800
25.0	-17.500	-27.500	-26.333	-32.500	-35.000	-33.333	25.0	-3.000	-3.571	-5.000	-5.000	-3.000
50.0	-10.000	-21.667	-22.500	-22.500	-26.667	-25.000	50.0	-0.	-1.429	-1.000	-1.250	-0.
75.0	-5.000	-17.500	-16.667	-17.500	-15.000	-16.333	75.0	3.750	1.667	3.333	2.500	6.667
90.0	-0.500	-15.250	-8.000	-15.250	-10.500	-15.333	90.0	9.000	4.667	7.000	4.750	9.667
95.0	2.000	-8.000	-6.500	-3.000	-3.000	-3.000	95.0	12.000	8.500	7.000	12.000	16.500
99.0	4.400	-5.600	-5.300	-0.600	-0.600	-0.600	99.0	14.400	9.700	9.400	14.400	19.700
NO. OF	12.	12.	12.	12.	12.	12.	NO. OF	12.	12.	12.	12.	12.
Obs.	59.	59.	59.	59.	59.	59.	Obs.	59.	59.	59.	59.	59.

FOR MONTH OF			MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	12	24
1.0	-4.852	-6.525	-6.525	-7.050	-4.789	-4.705	1.0	-4.852
5.0	-4.262	-4.624	-4.736	-4.512	-3.946	-3.525	5.0	-4.262
10.0	-3.525	-4.276	-3.917	-3.775	-2.893	-2.050	10.0	-3.525
25.0	-1.312	-2.639	-1.458	-1.562	0.188	1.188	25.0	-1.312
50.0	1.896	0.179	2.639	2.361	3.875	4.875	50.0	1.896
75.0	4.330	5.481	7.232	7.019	8.015	9.191	75.0	4.330
90.0	8.643	8.685	11.833	11.100	12.625	15.100	90.0	8.643
95.0	11.750	15.250	16.750	14.050	16.312	18.050	95.0	11.750
99.0	22.050	23.525	27.050	18.525	19.262	22.050	99.0	22.050
NO. OF	59.	59.	59.	59.	59.	59.	NO. OF	59.
Obs.	59.	59.	59.	59.	59.	59.	Obs.	59.

TABLE IIIe

March, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MARCH				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMITUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-8.775	-7.550	-8.775	-8.469	-8.639	-8.666	-8.666	1.0	-9.053	-9.369	-9.341	-9.279	-9.203	-9.203	-9.109
5.0	-4.895	-4.698	-4.683	-4.776	-4.829	-4.931	-4.931	5.0	-5.266	-6.844	-6.707	-6.393	-6.013	-6.013	-5.544
10.0	-4.322	-4.187	-4.245	-4.132	-4.184	-4.258	-4.258	10.0	-4.542	-4.786	-4.737	-4.686	-4.605	-4.605	-4.560
25.0	-2.605	-2.656	-2.331	-2.197	-2.250	-2.239	-2.239	25.0	-3.085	-3.240	-3.103	-3.150	-3.016	-3.016	-3.055
50.0	0.262	-0.104	0.887	1.071	0.974	1.206	1.206	50.0	-0.657	-0.663	-0.378	-0.591	-0.367	-0.367	-0.546
75.0	3.179	3.092	4.180	4.437	4.197	4.809	4.809	75.0	2.656	2.961	3.398	3.552	3.931	3.931	3.185
90.0	4.929	5.147	7.905	8.881	8.258	8.807	8.807	90.0	4.841	6.241	8.196	6.391	8.957	8.957	7.167
95.0	7.688	8.750	9.561	11.719	10.938	11.458	11.458	95.0	7.821	9.046	12.446	13.031	13.019	13.019	9.972
99.0	11.375	17.750	17.583	23.188	23.875	28.875	28.875	99.0	12.970	13.485	19.142	24.850	29.925	29.925	27.425
NO. OF	245.	245.	245.	245.	245.	245.	245.	NO. OF	303.	303.	303.	303.	303.	303.	303.
OBS.	245.	245.	245.	245.	245.	245.	245.	OBS.	303.	303.	303.	303.	303.	303.	303.

FOR MONTH OF MARCH				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMITUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-14.600	-14.600	-14.600	-14.600	-14.733	-14.200	-14.600	1.0	-18.950	-18.950	-18.950	-19.475	-19.370	-18.950	-18.425
5.0	-13.000	-13.000	-13.000	-13.667	-13.667	-11.000	-13.000	5.0	-14.850	-14.850	-14.956	-17.375	-16.850	-14.937	-14.681
10.0	-11.000	-11.000	-11.000	-11.000	-12.333	-9.625	-11.000	10.0	-11.700	-14.029	-14.029	-14.812	-14.278	-13.625	-13.806
25.0	-8.000	-8.333	-9.091	-9.375	-6.875	-8.125	-8.750	25.0	-8.239	-11.250	-11.250	-9.788	-9.620	-9.844	-11.181
50.0	-2.500	-5.000	-7.273	-6.875	-5.825	-5.825	-6.250	50.0	-4.605	-7.386	-7.386	-7.083	-6.196	-6.562	-7.386
75.0	3.750	2.000	-5.435	-4.000	-2.500	-2.500	-2.500	75.0	-0.461	-3.125	-3.125	-3.375	-1.339	-1.250	-2.614
90.0	7.333	4.400	6.000	-1.600	-0.500	-0.500	2.000	90.0	6.688	1.750	4.500	4.500	7.125	6.167	2.313
95.0	8.667	6.000	8.000	-0.800	1.000	6.000	6.000	95.0	8.656	9.625	14.250	17.125	11.063	4.281	4.281
99.0	9.733	9.200	9.600	-0.160	4.200	9.200	9.200	99.0	11.850	21.850	26.425	26.850	14.212	8.425	8.425
NO. OF	16.	16.	16.	16.	16.	16.	16.	NO. OF	63.	63.	63.	63.	63.	63.	63.
OBS.	16.	16.	16.	16.	16.	16.	16.	OBS.	63.	63.	63.	63.	63.	63.	63.

TABLE IIIe (cont'd)

FOR MONTH OF			MARCH			FOR MONTH OF			MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 0 TO 10 (M/SEC)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0	-19.750	-29.250	-24.250	-24.250	-19.625	-24.625	1.0	-14.440	-14.533	-17.200	-17.200	-16.600	-14.609	1.0	-14.440	-14.533	-17.200
5.0	-18.750	-26.250	-21.250	-18.125	-23.125		5.0	-12.200	-12.667	-13.714	-13.200	-14.429	-13.444	5.0	-12.200	-12.667	-13.714
10.0	-17.500	-17.500	-18.750	-18.750	-16.250	-21.250	10.0	-9.970	-10.333	-11.714	-10.400	-12.429	-11.899	10.0	-9.970	-10.333	-11.714
25.0	-11.250	-4.062	-13.750	-14.250	-13.250	-17.612	25.0	-6.043	-6.000	-6.946	-6.333	-9.000	-6.938	25.0	-6.043	-6.000	-6.946
50.0	5.625	0.833	-7.500	-10.500	-9.375	-13.125	50.0	-5.000	-4.333	-6.154	-5.417	-6.200	-6.042	50.0	-5.000	-4.333	-6.154
75.0	10.417	10.625	3.125	3.313	-4.375	-6.437	75.0	0.909	0.714	-1.000	-1.000	-2.333	-1.786	75.0	0.909	0.714	-1.000
90.0	14.167	21.250	11.250	3.125	1.250	-5.625	90.0	4.727	7.400	9.500	6.167	3.500	10.500	90.0	4.727	7.400	9.500
95.0	16.250	23.125	13.125	4.062	3.125	1.250	95.0	10.300	10.500	12.750	6.500	6.667	14.000	95.0	10.300	10.500	12.750
99.0	19.250	24.625	14.625	4.612	4.625	4.250	99.0	37.200	22.200	17.200	12.200	13.600	16.600	99.0	37.200	22.200	17.200
NO. OF	15.	15.	15.	15.	15.	15.	NO. OF	56.	56.	56.	56.	56.	56.	NO. OF	56.	56.	56.
OBS.	15.	15.	15.	15.	15.	15.	OBS.	56.	56.	56.	56.	56.	56.	OBS.	56.	56.	56.

FOR MONTH OF			MARCH			FOR MONTH OF			MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 135 TO 180 (DEG)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 0 TO 10 (M/SEC)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0	-9.900	-8.656	-8.992	-9.069	-9.244	-9.136	1.0	-6.107	-7.563	-6.550	-6.550	-6.964	-6.792	1.0	-6.107	-7.563	-6.550
5.0	-4.952	-4.855	-4.955	-5.346	-6.219	-5.679	5.0	-4.703	-4.696	-4.816	-4.806	-4.979	-4.898	5.0	-4.703	-4.696	-4.816
10.0	-4.421	-4.290	-4.396	-4.486	-4.643	-4.541	10.0	-4.300	-4.179	-4.221	-4.161	-4.375	-4.303	10.0	-4.300	-4.179	-4.221
25.0	-2.829	-2.993	-2.599	-2.621	-3.065	-2.905	25.0	-2.650	-2.625	-2.459	-2.306	-2.562	-2.520	25.0	-2.650	-2.625	-2.459
50.0	-0.175	0.272	0.506	-0.046	-0.435	-0.160	50.0	-0.433	-0.036	0.637	0.605	0.595	0.561	50.0	-0.433	-0.036	0.637
75.0	3.139	3.560	4.335	3.766	3.769	3.924	75.0	3.306	3.724	4.191	3.677	4.441	4.260	75.0	3.306	3.724	4.191
90.0	5.700	7.130	6.466	6.360	6.194	6.714	90.0	6.711	7.639	7.935	7.361	8.438	8.625	90.0	6.711	7.639	7.935
95.0	6.725	9.761	10.900	12.766	10.900	14.900	95.0	6.616	9.653	9.511	9.375	9.946	11.250	95.0	6.616	9.653	9.511
99.0	14.580	18.825	24.475	27.635	26.450	21.450	99.0	11.375	19.250	17.750	13.550	19.250	16.375	99.0	11.375	19.250	17.750
NO. OF	242.	242.	242.	242.	242.	242.	NO. OF	145.	145.	145.	145.	145.	145.	NO. OF	145.	145.	145.
OBS.	242.	242.	242.	242.	242.	242.	OBS.	145.	145.	145.	145.	145.	145.	OBS.	145.	145.	145.

TABLE IIIe (cont'd)

FOR MONTH OF MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	12	24	LEVELS	12	24	LEVELS	12	24
1.0	-14.250	-14.750	1.0	-14.700	-14.775	1.0	-14.700	-14.775
5.0	-11.250	-13.750	5.0	-13.500	-13.875	5.0	-13.500	-14.100
10.0	-9.500	-12.500	10.0	-12.000	-12.750	10.0	-12.000	-13.200
25.0	-7.250	-9.375	25.0	-6.750	-9.464	25.0	-6.750	-9.583
50.0	-3.500	-6.250	50.0	-5.000	-6.786	50.0	-5.000	-6.250
75.0	0.825	-2.750	75.0	-3.750	-2.917	75.0	-1.786	-2.083
90.0	6.250	-0.500	90.0	-1.500	-0.500	90.0	1.000	5.500
95.0	8.125	3.125	95.0	-0.750	6.250	95.0	5.500	7.750
99.0	9.625	4.250	99.0	-0.150	9.250	99.0	9.100	9.550
NO. OF OBS.	15.	15.	NO. OF OBS.	15.	15.	NO. OF OBS.	18.	18.

FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	12	24	LEVELS	12	24	LEVELS	12	24
1.0	-7.525	-8.350	1.0	-9.021	-9.075	1.0	-9.021	-9.075
5.0	-4.661	-4.765	5.0	-5.103	-5.375	5.0	-5.103	-5.375
10.0	-4.092	-4.169	10.0	-4.453	-4.446	10.0	-4.453	-4.446
25.0	-2.385	-2.380	25.0	-2.777	-2.636	25.0	-2.777	-2.636
50.0	0.500	0.746	50.0	0.021	0.430	50.0	0.021	0.430
75.0	3.594	4.440	75.0	3.549	3.842	75.0	3.549	3.842
90.0	6.714	8.700	90.0	6.784	7.782	90.0	6.784	7.782
95.0	9.071	11.750	95.0	8.676	9.917	95.0	8.676	9.917
99.0	14.020	20.100	99.0	12.088	18.892	99.0	12.088	18.892
NO. OF OBS.	198.	198.	NO. OF OBS.	333.	333.	NO. OF OBS.	333.	333.

TABLE IIIe (cont'd)

FOR MONTH OF MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-17.075	-17.075	-14.610	-17.075	-14.656	1.0	-9.200	-9.328	-9.533	-9.458	-9.236
5.0	-11.150	-13.075	-13.050	-14.083	-13.279	5.0	-6.000	-6.640	-7.667	-7.290	-6.182
10.0	-9.365	-10.150	-11.100	-12.690	-11.559	10.0	-4.632	-4.721	-5.333	-4.907	-4.613
25.0	-6.993	-7.896	-8.516	-9.132	-8.724	25.0	-3.158	-3.084	-3.421	-3.107	-2.933
50.0	-3.274	-4.257	-5.469	-5.069	-5.677	50.0	-0.702	-0.357	-0.658	-0.107	-0.133
75.0	0.365	-0.304	-1.133	-1.217	-1.898	75.0	2.703	3.360	3.333	3.491	3.636
90.0	4.021	6.150	6.500	6.917	4.036	90.0	4.973	7.026	7.300	7.139	7.550
95.0	7.875	9.075	9.159	11.792	6.458	95.0	8.115	9.237	9.400	9.472	9.650
99.0	14.788	19.575	14.717	17.075	18.050	99.0	13.033	14.775	17.733	14.820	16.067
NO. OF						NO. OF					
OBS.	117.	117.	117.	117.	117.	OBS.	336.	336.	336.	336.	336.

FOR MONTH OF MARCH			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF MARCH			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.900	-24.733	-24.600	-24.200	-29.200	1.0	-16.250	-16.250	-16.250	-16.125	-16.125
5.0	-19.500	-23.667	-23.000	-21.000	-26.000	5.0	-12.708	-14.018	-14.083	-14.327	-14.514
10.0	-19.000	-22.333	-21.000	-19.625	-23.500	10.0	-9.931	-12.679	-12.833	-12.885	-13.472
25.0	-17.500	-19.000	-18.333	-18.125	-19.000	25.0	-8.368	-9.464	-9.607	-9.449	-10.347
50.0	-15.000	-15.000	-15.000	-15.625	-17.000	50.0	-5.764	-6.786	-6.929	-6.691	-7.500
75.0	-3.333	-11.000	-11.000	-11.250	-15.000	75.0	-1.513	-3.162	-3.125	-2.986	-4.519
90.0	2.000	-4.000	-6.500	-6.500	-6.500	90.0	5.357	0.625	1.389	0.500	-0.441
95.0	6.000	-2.000	1.000	-4.000	-4.000	95.0	8.036	5.417	3.472	4.250	5.625
99.0	9.200	-0.400	4.200	-0.600	-0.600	99.0	11.250	16.250	6.250	26.250	16.250
NO. OF						NO. OF					
OBS.	16.	16.	16.	16.	16.	OBS.	75.	75.	75.	75.	75.



TABLE IIIe (cont'd)

FOR MONTH OF			MARCH			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS		
	12	24	36		12	24	36		12	24	36
LEVELS				LEVELS				LEVELS			
1.0	-8.008	-8.672	-7.012	1.0	-14.625	-14.612	-14.850	1.0	-14.625	-14.612	-14.850
5.0	-4.737	-4.657	-4.602	5.0	-13.125	-14.062	-14.250	5.0	-13.125	-14.062	-14.250
10.0	-4.208	-4.277	-4.005	10.0	-11.250	-13.125	-13.500	10.0	-11.250	-13.125	-13.500
25.0	-2.622	-2.536	-2.212	25.0	-8.250	-10.312	-11.250	25.0	-8.250	-10.312	-11.250
50.0	0.026	0.412	0.783	50.0	-4.383	-7.500	-7.500	50.0	-4.383	-7.500	-7.500
75.0	3.074	3.695	3.801	75.0	-1.458	-4.687	-3.437	75.0	-1.458	-4.687	-3.437
90.0	4.903	7.521	7.521	90.0	2.500	-1.875	-0.625	90.0	2.500	-1.875	-0.625
95.0	7.792	10.031	10.036	95.0	11.250	-0.937	1.250	95.0	11.250	-0.937	1.250
99.0	12.693	17.013	18.263	99.0	14.250	-0.187	4.250	99.0	14.250	-0.187	4.250
NO. OF				NO. OF				NO. OF			
OBS.	239.	239.	239.	OBS.	15.	15.	15.	OBS.	15.	15.	15.

TABLE IVa

April, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.192	-9.030	-9.307	-9.192	-8.363	-9.307	1.0	-4.997	-6.970	-9.356	-9.465
5.0	-3.958	-5.150	-6.536	-5.988	-4.774	-6.536	5.0	-4.585	-4.983	-7.425	-6.781
10.0	-4.822	-4.466	-4.645	-4.439	-4.183	-4.654	10.0	-4.070	-4.364	-4.705	-4.953
25.0	-3.136	-2.812	-2.730	-2.235	-2.409	-2.786	25.0	-2.525	-2.567	-2.724	-2.539
50.0	-0.663	-0.057	0.500	1.284	0.750	0.431	50.0	0.052	0.417	0.549	1.397
75.0	2.485	3.209	3.964	4.561	4.792	4.612	75.0	2.734	3.482	3.689	5.284
90.0	4.486	5.650	7.808	8.767	8.500	8.618	90.0	4.344	6.038	7.136	8.795
95.0	6.150	8.075	9.673	11.438	9.776	10.375	95.0	4.680	6.019	9.477	9.966
99.0	10.150	15.150	18.563	20.150	25.150	20.150	99.0	6.712	9.604	13.712	14.963
NO. OF OBS.	97.	97.	97.	97.	97.	97.	NO. OF OBS.	103.	103.	103.	103.

FOR MONTH OF APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.750	-14.250	-14.750	-14.500	-14.786	-19.500	1.0	-9.786	-13.500	-13.500	-14.250
5.0	-6.750	-11.250	-13.750	-12.500	-13.929	-13.750	5.0	-8.929	-9.773	-9.750	-11.250
10.0	-7.500	-9.583	-12.500	-10.000	-12.857	-10.000	10.0	-7.857	-9.091	-9.000	-9.687
25.0	-4.843	-7.708	-9.464	-8.594	-9.844	-8.750	25.0	-4.844	-7.045	-6.750	-8.261
50.0	-2.857	-4.643	-6.786	-6.250	-7.500	-6.687	50.0	-2.500	-4.000	-3.750	-5.937
75.0	-1.071	-1.964	-2.917	-3.036	-5.156	-4.167	75.0	-0.156	-1.500	-1.406	-2.500
90.0	0.000	-0.357	1.250	-0.556	-1.667	-1.667	90.0	2.857	0.000	0.000	0.000
95.0	3.750	1.250	3.125	2.500	-0.417	-0.833	95.0	3.929	2.500	2.500	2.500
99.0	6.500	4.250	4.625	13.500	6.500	-0.167	99.0	4.786	4.500	4.500	4.500
NO. OF OBS.	30.	30.	30.	30.	30.	30.	NO. OF OBS.	30.	30.	30.	30.



TABLE IVa (cont'd)

FOR MONTH OF APRIL				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				INITIAL DIRECTION 180 TO 225 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-5.875	-4.907	-7.937	-8.350	-9.250	-8.625		1.0	-14.400	-14.880	-19.700	-19.850	-19.800	-19.700
5.0	-4.410	-3.964	-4.356	-4.476	-6.250	-4.784		5.0	-12.000	-14.400	-18.500	-19.250	-19.000	-18.500
10.0	-3.632	-2.786	-3.106	-3.145	-4.329	-3.990		10.0	-9.500	-13.800	-17.000	-18.500	-18.000	-17.000
25.0	-1.297	0.380	0.386	0.430	-1.311	-1.611		25.0	-5.000	-12.000	-13.333	-16.250	-15.000	-14.000
50.0	2.052	3.370	4.136	3.811	3.389	3.063		50.0	-1.250	-7.500	-9.000	-12.500	-12.000	-11.000
75.0	5.230	7.467	8.872	9.053	8.429	7.926		75.0	3.333	-1.667	-6.000	-9.333	-7.500	-8.000
90.0	8.487	12.115	15.179	13.854	13.906	12.321		90.0	9.000	4.000	-3.000	-5.333	-3.000	-6.200
95.0	9.572	15.625	18.125	16.964	17.969	15.938		95.0	12.000	7.000	-1.500	-3.000	-1.500	-5.600
99.0	14.188	22.250	22.250	25.875	26.750	27.250		99.0	14.400	9.400	-0.300	-0.600	-0.300	-5.120
NO. OF OBS.	165.	165.	165.	165.	165.	165.		NO. OF OBS.	12.	12.	12.	12.	12.	12.

FOR MONTH OF APRIL				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-11.350	-16.350	-19.087	-16.350	-14.696	-14.544		1.0	-7.100	-8.757	-9.130	-9.331	-9.130	-9.275
5.0	-7.350	-11.687	-15.437	-13.795	-13.479	-12.719		5.0	-4.548	-4.807	-5.650	-6.654	-5.650	-6.375
10.0	-4.776	-8.562	-9.875	-12.136	-11.958	-10.437		10.0	-3.857	-3.818	-4.229	-4.532	-4.327	-4.460
25.0	-2.888	-3.618	-5.312	-7.768	-7.596	-7.670		25.0	-1.786	-0.852	-1.510	-1.755	-1.955	-1.850
50.0	0.357	1.500	0.536	-0.625	-2.262	-2.679		50.0	1.591	3.000	2.685	3.000	2.500	2.451
75.0	4.702	6.938	6.691	6.442	3.125	5.729		75.0	4.886	7.267	7.721	6.110	7.443	7.303
90.0	8.731	9.675	9.912	11.214	10.700	10.583		90.0	9.241	11.300	13.118	13.313	11.636	12.154
95.0	11.750	13.917	14.188	13.821	14.350	13.625		95.0	11.792	16.083	16.917	16.650	15.929	16.083
99.0	18.783	26.350	26.350	26.350	26.350	26.175		99.0	14.692	25.650	24.075	25.650	23.150	23.767
NO. OF OBS.	73.	73.	73.	73.	73.	73.		NO. OF OBS.	174.	174.	174.	174.	174.	174.

TABLE IVa (cont'd)

FOR MONTH OF			APRIL			FOR MONTH OF			APRIL			INITIAL WIND SPEED			35 TO			45 (M/SEC)		
ALTITUDE			1 TO 5 (KM)			ALTITUDE			1 TO 5 (KM)			INITIAL DIRECTION			225 TO 270			270 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
LEVELS			12	24	36	LEVELS			12	24	36	LEVELS			12	24	36	LEVELS		
1.0	-14.121	-17.212	-17.212	-17.212	-17.212	1.0	-23.550	-24.275	-23.550	-33.550	-28.550	1.0	-23.550	-24.275	-23.550	-33.550	-28.550	1.0	-23.550	-24.275
5.0	-9.457	-12.250	-13.212	-12.693	-12.950	5.0	-17.750	-21.375	-28.875	-29.250	-24.719	5.0	-17.750	-21.375	-28.875	-29.250	-24.719	5.0	-17.750	-21.375
10.0	-7.534	-9.284	-10.425	-10.159	-9.795	10.0	-14.100	-19.250	-25.250	-26.833	-23.812	10.0	-14.100	-19.250	-25.250	-26.833	-23.812	10.0	-14.100	-19.250
25.0	-3.384	-4.849	-6.693	-6.725	-6.808	25.0	-9.875	-15.625	-18.750	-19.306	-21.094	25.0	-9.875	-15.625	-18.750	-19.306	-21.094	25.0	-9.875	-15.625
50.0	1.331	-0.043	-1.708	-2.250	-2.568	50.0	-6.250	-8.929	-12.812	-15.278	-15.417	50.0	-6.250	-8.929	-12.812	-15.278	-15.417	50.0	-6.250	-8.929
75.0	6.139	7.537	5.202	4.850	3.042	75.0	-0.250	-3.542	-6.562	-10.179	-7.250	75.0	-0.250	-3.542	-6.562	-10.179	-7.250	75.0	-0.250	-3.542
90.0	9.856	13.093	11.088	11.357	9.173	90.0	8.500	5.250	10.250	9.250	4.500	90.0	8.500	5.250	10.250	9.250	4.500	90.0	8.500	5.250
95.0	12.736	15.607	14.368	14.012	13.114	95.0	12.750	8.875	13.875	8.875	12.750	95.0	12.750	8.875	13.875	8.875	12.750	95.0	12.750	8.875
99.0	16.283	22.770	19.836	19.770	17.950	99.0	18.550	23.550	18.550	18.550	18.550	99.0	18.550	23.550	18.550	18.550	18.550	99.0	18.550	23.550
NO. OF			OBS.			NO. OF			OBS.			NO. OF			OBS.			NO. OF		
223.			223.			223.			223.			223.			223.			223.		
OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
223.			223.			223.			223.			223.			223.			223.		

FOR MONTH OF			APRIL			FOR MONTH OF			APRIL			INITIAL WIND SPEED			0 TO 10			10 (M/SEC)		
ALTITUDE			1 TO 5 (KM)			ALTITUDE			1 TO 5 (KM)			INITIAL DIRECTION			270 TO 315			315 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
LEVELS			12	24	36	LEVELS			12	24	36	LEVELS			12	24	36	LEVELS		
1.0	-21.625	-19.156	-21.625	-24.125	-23.650	1.0	-9.086	-9.162	-8.995	-9.372	-9.409	1.0	-9.086	-9.162	-8.995	-9.372	-9.409	1.0	-9.086	-9.162
5.0	-13.437	-15.781	-18.920	-19.250	-19.514	5.0	-5.432	-5.812	-4.996	-6.859	-7.044	5.0	-5.432	-5.812	-4.996	-6.859	-7.044	5.0	-5.432	-5.812
10.0	-10.625	-13.900	-17.386	-17.900	-17.639	10.0	-4.471	-4.336	-4.172	-4.512	-4.677	10.0	-4.471	-4.336	-4.172	-4.512	-4.677	10.0	-4.471	-4.336
25.0	-7.321	-9.883	-13.319	-14.179	-13.419	25.0	-2.718	-1.865	-1.701	-0.923	-1.536	25.0	-2.718	-1.865	-1.701	-0.923	-1.536	25.0	-2.718	-1.865
50.0	-2.348	-4.653	-8.171	-9.196	-8.359	50.0	0.233	2.052	2.458	3.373	3.170	50.0	0.233	2.052	2.458	3.373	3.170	50.0	0.233	2.052
75.0	3.042	0.063	-2.431	-3.102	-2.731	75.0	3.583	6.311	7.669	8.306	8.234	75.0	3.583	6.311	7.669	8.306	8.234	75.0	3.583	6.311
90.0	9.722	5.250	3.026	1.346	3.929	90.0	7.023	9.988	13.583	13.386	14.088	90.0	7.023	9.988	13.583	13.386	14.088	90.0	7.023	9.988
95.0	13.125	8.625	4.803	3.942	10.250	95.0	9.307	13.317	18.094	17.107	17.673	95.0	9.307	13.317	18.094	17.107	17.673	95.0	9.307	13.317
99.0	17.750	19.125	12.750	13.250	18.250	99.0	14.990	18.738	24.990	23.990	22.488	99.0	14.990	18.738	24.990	23.990	22.488	99.0	14.990	18.738
NO. OF			OBS.			NO. OF			OBS.			NO. OF			OBS.			NO. OF		
135.			135.			135.			135.			135.			135.			135.		
OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
135.			135.			135.			135.			135.			135.			135.		

TABLE IVa (cont'd)

FOR MONTH OF APRIL				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF APRIL				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-12.050	-14.637	-14.925	-14.929	-15.575	-17.471		1.0	-9.021	-9.429	-9.377	-8.858	-9.144	-9.429	
5.0	-9.220	-12.614	-12.958	-13.066	-13.478	-13.592		5.0	-5.107	-7.146	-6.886	-4.913	-5.719	-7.146	
10.0	-8.040	-10.086	-10.500	-10.737	-11.511	-11.263		10.0	-4.460	-4.856	-4.730	-4.214	-4.394	-4.770	
25.0	-4.758	-7.207	-7.155	-7.238	-7.591	-7.758		25.0	-2.802	-3.114	-2.675	-2.117	-2.207	-1.993	
50.0	-1.903	-2.939	-2.594	-2.525	-2.386	-2.840		50.0	-0.040	-0.212	0.893	1.607	2.109	2.074	
75.0	1.941	1.734	2.792	3.409	4.152	4.250		75.0	2.860	3.608	4.970	6.307	7.461	6.298	
90.0	6.031	7.100	9.926	5.450	9.638	9.851		90.0	4.602	7.184	9.229	12.389	12.389	10.722	
95.0	8.797	10.125	13.604	13.500	13.109	13.260		95.0	6.194	8.987	11.969	17.688	17.688	14.528	
99.0	13.569	17.460	21.825	19.700	19.550	19.350		99.0	9.239	12.717	18.150	23.830	23.830	21.375	
NO. OF OBS.	354.	354.	354.	354.	354.	354.		NO. OF OBS.	137.	137.	137.	137.	137.	137.	

FOR MONTH OF APRIL				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF APRIL				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-14.965	-19.319	-23.637	-27.275	-24.950	-24.936		1.0	-14.258	-14.506	-17.775	-16.517	-16.517	-15.550	-17.775
5.0	-13.288	-16.594	-19.194	-19.668	-22.528	-21.821		5.0	-11.292	-12.528	-13.886	-14.547	-13.562	-13.562	-13.886
10.0	-11.192	-14.237	-16.167	-18.265	-19.500	-19.194		10.0	-9.275	-10.056	-11.864	-13.156	-11.708	-11.864	-11.864
25.0	-7.863	-9.967	-11.042	-12.981	-13.413	-14.702		25.0	-5.937	-8.107	-8.640	-9.476	-8.508	-8.508	-8.508
50.0	-3.750	-6.382	-6.210	-6.750	-6.304	-6.370		50.0	-2.667	-4.917	-5.368	-5.687	-4.900	-4.900	-4.900
75.0	-0.164	-1.193	-1.343	-1.359	-1.875	-1.736		75.0	0.197	-1.208	-0.865	-1.012	-0.450	-0.450	-0.450
90.0	3.775	4.625	4.550	3.865	4.625	5.688		90.0	3.711	2.542	3.500	6.167	5.071	7.563	
95.0	5.458	7.528	8.250	8.188	9.550	9.094		95.0	4.882	4.396	5.688	8.639	8.250	10.550	
99.0	9.092	9.950	14.775	22.275	19.550	14.850		99.0	12.775	8.517	15.550	15.550	12.775	14.110	
NO. OF OBS.	109.	109.	109.	109.	109.	109.		NO. OF OBS.	89.	89.	89.	89.	89.	89.	

TABLE IVa (cont'd)

FOR MONTH OF		APRIL		INITIAL WIND SPEED		20 TO		30 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		315 TO 360		(DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72		
1.0		-14.800	-19.000	-19.667	-24.000	-29.000	-29.000		
5.0		-14.000	-15.000	-18.333	-20.000	-25.000	-25.000		
10.0		-13.000	-14.000	-16.667	-19.000	-22.500	-22.500		
25.0		-10.000	-11.000	-13.750	-16.000	-18.000	-18.333		
50.0		-6.429	-7.143	-10.625	-12.500	-13.571	-13.750		
75.0		-2.000	-3.000	-6.000	-7.500	-10.000	-5.000		
90.0		2.500	0.000	-2.500	-1.667	0.000	5.000		
95.0		5.000	2.500	-1.250	0.000	5.000	10.000		
99.0		9.000	4.500	-0.250	4.000	9.000	14.000		
NO. OF		20.	20.	20.	20.	20.	20.		
OBS.		20.	20.	20.	20.	20.	20.		

TABLE IVb

April, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF APRIL				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF APRIL				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMETER 6 TO 10 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMETER 6 TO 10 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72			
1.0 -7.950 -4.842 -4.854 -4.829 -7.950 -4.744				1.0 -8.950 -9.710 -9.275 -8.550 -9.275 -8.550				1.0 -8.950 -9.710 -9.275 -8.550 -9.275 -8.550				1.0 -8.950 -9.710 -9.275 -8.550 -9.275 -8.550			
5.0 -4.825 -4.212 -4.268 -4.146 -4.475 -3.719				5.0 -4.859 -8.550 -6.375 -4.839 -6.375 -4.750				5.0 -4.859 -8.550 -6.375 -4.839 -6.375 -4.750				5.0 -4.859 -8.550 -6.375 -4.839 -6.375 -4.750			
10.0 -3.893 -3.423 -3.536 -3.292 -3.450 -2.437				10.0 -4.406 -7.100 -4.591 -4.321 -4.625 -3.944				10.0 -4.406 -7.100 -4.591 -4.321 -4.625 -3.944				10.0 -4.406 -7.100 -4.591 -4.321 -4.625 -3.944			
25.0 -1.696 -1.058 -1.339 -0.729 -0.375 0.804				25.0 -3.047 -3.125 -2.614 -2.768 -2.812 -1.528				25.0 -3.047 -3.125 -2.614 -2.768 -2.812 -1.528				25.0 -3.047 -3.125 -2.614 -2.768 -2.812 -1.528			
50.0 1.447 3.125 3.611 5.500 5.781 4.464				50.0 -0.781 1.346 0.750 -0.179 0.500 2.250				50.0 -0.781 1.346 0.750 -0.179 0.500 2.250				50.0 -0.781 1.346 0.750 -0.179 0.500 2.250			
75.0 4.145 7.212 7.981 6.917 6.984 6.646				75.0 2.375 4.135 4.375 4.821 7.292 7.188				75.0 2.375 4.135 4.375 4.821 7.292 7.188				75.0 2.375 4.135 4.375 4.821 7.292 7.188			
90.0 7.417 9.577 11.125 16.125 12.900 17.250				90.0 4.550 7.625 7.583 9.100 11.833 16.375				90.0 4.550 7.625 7.583 9.100 11.833 16.375				90.0 4.550 7.625 7.583 9.100 11.833 16.375			
95.0 9.125 12.375 13.688 18.688 14.950 22.375				95.0 6.375 9.438 8.792 11.375 14.250 18.187				95.0 6.375 9.438 8.792 11.375 14.250 18.187				95.0 6.375 9.438 8.792 11.375 14.250 18.187			
99.0 12.950 17.950 17.950 22.950 27.950 32.950				99.0 9.275 13.550 9.758 14.275 18.550 19.837				99.0 9.275 13.550 9.758 14.275 18.550 19.837				99.0 9.275 13.550 9.758 14.275 18.550 19.837			
NO. OF OBS. 41. 41. 41. 41. 41. 41.				NO. OF OBS. 29. 29. 29. 29. 29. 29.				NO. OF OBS. 29. 29. 29. 29. 29. 29.				NO. OF OBS. 29. 29. 29. 29. 29. 29.			



TABLE IVb (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED			0 TO 10 (M/SEC)			FOR MONTH OF			APRIL			INITIAL WIND SPEED			0 TO 10 (M/SEC)		
ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			90 TO 135 (DEG)			ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS			24 36 48 72			LEVELS			24 36 48 72			LEVELS			24 36 48 72			LEVELS			24 36 48 72		
1.0			-4.915	-9.150	-4.879	-4.858	-4.830	-4.879	-4.879	-4.879	-4.879	1.0			-9.150	-4.787	-4.757	-9.150	-4.757	-9.150	-4.150	-8.300	-8.300
5.0			-4.375	-5.750	-4.393	-4.292	-4.150	-4.393	-4.393	-4.393	-4.393	5.0			-5.750	-3.937	-3.786	-5.750	-3.786	-5.750	-0.750	-4.300	-4.300
10.0			-4.150	-4.562	-3.786	-3.583	-3.300	-3.786	-3.300	-3.786	-3.786	10.0			-3.833	-2.875	-2.571	-2.667	0.778	-2.667	0.778	-2.600	-2.600
25.0			-2.875	-2.969	-1.964	-1.458	-0.750	-1.964	-1.964	-1.964	-1.964	25.0			0.167	0.417	1.500	1.944	3.611	1.944	3.611	4.167	4.167
50.0			-0.750	-0.312	3.750	3.125	2.917	3.750	3.750	3.750	3.750	50.0			3.000	6.250	6.925	8.000	10.000	8.000	10.000	10.000	10.000
75.0			2.292	3.750	7.679	7.292	7.188	9.687	7.188	9.687	9.687	75.0			6.786	9.792	10.625	14.063	15.938	15.938	21.875	21.875	21.875
90.0			4.417	7.167	9.500	9.417	11.500	13.833	11.500	13.833	13.833	90.0			11.000	13.833	22.667	18.600	19.125	18.600	28.250	28.250	28.250
95.0			5.750	8.583	10.750	10.750	15.750	15.750	15.750	15.750	15.750	95.0			13.833	16.500	25.750	20.750	25.750	20.750	30.750	30.750	30.750
99.0			9.150	9.717	14.150	14.150	19.150	19.150	19.150	19.150	19.150	99.0			18.300	28.300	29.150	24.150	29.150	24.150	34.150	34.150	34.150
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
17.			17.			17.			17.			17.			17.			17.			17.		
OBS.			17.			17.			17.			17.			17.			17.			17.		

FOR MONTH OF			APRIL			INITIAL WIND SPEED			10 TO 20 (M/SEC)			FOR MONTH OF			APRIL			INITIAL WIND SPEED			10 TO 20 (M/SEC)		
ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			90 TO 135 (DEG)			ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS			24 36 48 72			LEVELS			24 36 48 72			LEVELS			24 36 48 72			LEVELS			24 36 48 72		
1.0			-4.931	-9.820	-9.871	-14.100	-9.871	-14.100	-9.871	-14.100	-14.100	1.0			-9.733	-9.200	-9.800	-14.600	-14.600	-14.600	-14.600	-14.600	-14.600
5.0			-4.654	-9.100	-9.357	-10.500	-9.357	-10.500	-9.357	-10.500	-10.500	5.0			-8.667	-6.000	-9.000	-13.000	-13.000	-13.000	-13.000	-13.000	-13.000
10.0			-4.308	-8.200	-8.714	-9.000	-8.714	-9.636	-8.714	-9.636	-9.636	10.0			-7.333	-4.400	-8.000	-11.000	-11.000	-11.000	-11.000	-11.000	-11.000
25.0			-3.269	-5.500	-6.786	-5.625	-6.786	-8.409	-6.786	-8.409	-8.409	25.0			-4.167	-2.000	-5.000	-3.333	-3.333	-3.333	-2.500	-2.500	-2.500
50.0			-1.538	-2.778	-3.889	-2.500	-3.750	-6.364	-3.750	-6.364	-6.364	50.0			-0.833	2.500	5.000	7.000	5.000	5.000	6.667	6.667	6.667
75.0			0.625	-0.278	-1.389	3.500	-0.937	-3.750	-0.937	-3.750	-3.750	75.0			8.333	10.000	13.333	12.500	15.000	15.000	10.000	10.000	10.000
90.0			4.000	3.667	1.000	3.200	2.000	-1.500	2.000	-1.500	-1.500	90.0			13.500	27.000	27.000	27.000	31.000	31.000	21.000	21.000	21.000
95.0			5.500	5.500	5.500	4.100	3.500	-0.750	3.500	-0.750	-0.750	95.0			21.000	31.000	31.000	31.000	33.000	33.000	23.000	23.000	23.000
99.0			9.100	9.100	9.100	4.820	4.700	-0.150	4.700	-0.150	-0.150	99.0			24.200	34.200	34.200	34.200	34.600	34.600	24.600	24.600	24.600
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
18.			18.			18.			18.			18.			18.			18.			18.		
OBS.			18.			18.			18.			18.			18.			18.			18.		

TABLE IVb (cont'd)

FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.320	-8.300	-6.867	-9.433	-9.150	1.0	-14.310	-16.310	-21.637	-23.275	-24.425
5.0	-6.600	-4.632	-4.833	-7.167	-5.750	5.0	-9.023	-12.135	-13.226	-16.365	-18.297
10.0	-4.400	-3.737	-3.417	-4.556	-4.176	10.0	-6.965	-9.160	-10.024	-12.750	-14.637
25.0	-1.000	-1.053	0.476	0.714	-0.833	25.0	-2.802	-4.905	-5.893	-7.230	-9.549
50.0	2.917	3.611	4.324	6.766	7.273	50.0	2.257	0.446	0.809	0.074	-1.460
75.0	6.842	8.333	11.875	15.000	14.444	75.0	7.275	9.744	9.726	9.327	7.276
90.0	9.526	13.000	19.333	23.200	21.500	90.0	11.690	16.409	19.357	16.409	15.500
95.0	11.600	16.000	22.600	26.600	26.500	95.0	14.893	24.625	25.344	25.344	22.219
99.0	14.320	21.600	31.600	29.320	33.300	99.0	28.275	37.758	35.517	35.517	33.850
NO. OF						NO. OF					
OBS.	66.	66.	66.	66.	66.	OBS.	269.	269.	269.	269.	269.

FOR MONTH OF APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-10.450	-15.450	-15.450	-14.658	-14.759	1.0	-24.775	-23.637	-28.258	-31.517	-32.275
5.0	-7.484	-9.300	-9.974	-11.625	-11.967	5.0	-16.417	-17.904	-21.292	-22.275	-23.083
10.0	-4.784	-6.267	-7.579	-8.917	-9.407	10.0	-12.921	-14.237	-16.821	-18.659	-19.183
25.0	-2.108	-1.643	-1.635	-3.534	-4.485	25.0	-6.625	-8.267	-11.546	-13.227	-14.349
50.0	2.222	4.359	4.022	4.167	3.947	50.0	-0.663	-2.446	-3.958	-5.776	-8.359
75.0	6.987	10.341	10.729	11.625	13.068	75.0	4.399	4.132	3.958	2.031	0.324
90.0	11.000	16.789	19.250	21.125	21.556	90.0	9.183	11.167	9.328	5.071	7.346
95.0	13.395	19.184	23.292	27.900	27.071	95.0	12.135	17.219	14.094	13.639	12.219
99.0	30.900	25.900	35.450	37.725	36.967	99.0	19.550	27.275	27.275	23.183	24.775
NO. OF						NO. OF					
OBS.	182.	182.	182.	182.	182.	OBS.	209.	209.	209.	209.	209.

TABLE IVb (cont'd)

FOR MONTH OF APRIL			INITIAL WIND SPEED 40 TO 50 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-27.875	-33.583	-34.292	-38.937	-39.393	1.0	-8.875	-9.357	-9.357	-9.100	-8.500	-8.875
5.0	-19.750	-26.875	-31.458	-34.583	-36.964	5.0	-4.922	-6.786	-6.786	-5.500	-4.643	-4.896
10.0	-15.500	-22.500	-24.250	-28.929	-30.625	10.0	-4.219	-4.600	-4.583	-4.048	-3.571	-3.958
25.0	-8.359	-16.146	-18.068	-21.705	-24.135	25.0	-2.109	-1.900	-1.771	-0.833	-0.357	-1.146
50.0	-2.500	-6.562	-9.821	-12.500	-14.500	50.0	1.607	1.912	2.800	4.750	6.000	7.500
75.0	4.479	0.417	-1.125	-2.708	-6.477	75.0	5.921	5.441	7.875	10.682	13.750	14.531
90.0	8.833	7.500	8.438	7.500	4.375	90.0	9.474	9.412	13.125	19.000	22.500	22.667
95.0	13.750	9.861	12.188	12.917	11.875	95.0	11.786	12.083	16.875	23.500	25.625	24.167
99.0	35.750	13.938	17.875	25.750	25.750	99.0	14.357	15.500	22.750	28.500	30.500	27.750
NO. OF OBS.	85.	85.	85.	85.	85.	NO. OF OBS.	90.	90.	90.	90.	90.	90.

FOR MONTH OF APRIL			INITIAL WIND SPEED 50 TO 60 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-28.850	-37.700	-39.425	-34.233	-37.700	-39.425	1.0	-9.932	-13.494	-14.073	-13.905	-14.197	-14.291
5.0	-23.500	-32.833	-37.125	-31.167	-33.700	-37.125	5.0	-8.325	-9.560	-10.365	-9.875	-10.983	-11.456
10.0	-18.400	-28.500	-32.000	-28.857	-31.400	-33.500	10.0	-6.317	-8.250	-8.414	-8.440	-8.770	-9.155
25.0	-10.625	-17.500	-23.500	-23.929	-26.071	-24.643	25.0	-3.338	-4.362	-3.724	-4.316	-4.103	-4.836
50.0	-2.143	-7.222	-15.000	-17.000	-18.889	-18.214	50.0	0.278	1.591	2.500	1.576	2.500	3.092
75.0	4.722	3.500	-0.500	-7.917	-11.250	-12.500	75.0	5.083	7.188	8.030	8.343	9.840	9.485
90.0	9.571	9.500	3.556	3.500	-1.500	0.667	90.0	9.100	11.500	12.804	14.563	16.225	19.192
95.0	16.750	14.250	4.833	9.250	8.500	4.500	95.0	11.795	14.120	15.886	18.317	19.238	23.827
99.0	37.700	23.850	17.700	17.700	22.700	13.850	99.0	17.590	18.993	21.475	24.590	29.488	29.707
NO. OF OBS.	46.	46.	46.	46.	46.	NO. OF OBS.	241.	241.	241.	241.	241.	241.	241.

**TABLE IVb (cont'd)**

FOR MONTH OF APRIL			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 40 TO 50 (M/SEC)							
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)							
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS							
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-15.800	-19.236	-21.320	-24.514	-23.320	-23.320	1.0	-19.994	-26.317	-29.995	-32.475	-38.317	-34.990
5.0	-11.211	-14.206	-16.278	-18.000	-16.324	-17.964	5.0	-17.750	-22.437	-27.975	-28.094	-31.583	-30.950
10.0	-8.970	-11.500	-13.135	-14.256	-15.618	-14.836	10.0	-14.950	-18.278	-25.450	-24.955	-24.312	-23.136
25.0	-4.923	-6.875	-7.714	-8.197	-9.123	-9.821	25.0	-9.028	-12.431	-16.705	-17.344	-17.250	-17.574
50.0	-1.365	-1.649	-1.625	-1.467	-1.918	-2.121	50.0	-4.239	-7.339	-8.676	-8.437	-9.107	-9.265
75.0	3.294	4.615	6.019	6.216	7.564	7.500	75.0	2.212	-0.114	0.313	-1.354	-0.703	-0.865
90.0	8.275	9.328	12.346	14.000	14.892	14.735	90.0	11.900	9.917	12.375	14.833	8.500	7.417
95.0	11.438	13.786	17.300	18.625	19.889	21.643	95.0	16.625	18.688	22.375	27.458	12.950	13.250
99.0	17.767	23.325	28.867	31.600	36.933	32.900	99.0	19.992	37.475	34.975	37.475	29.950	32.475
NO. OF OBS.	368.	368.	368.	368.	368.	368.	NO. OF OBS.	101.	101.	101.	101.	101.	101.

FOR MONTH OF APRIL				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 50 TO 60 (M/SEC)					
ALTITUDE 6 TO 10 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		ALTITUDE 6 TO 10 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		ALTITUDE 6 TO 10 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-19.787	-23.050	-24.935	-27.287	-29.025	-29.164	1.0	-36.550	-29.275	-38.550	-33.550	-34.275	
5.0	-14.030	-17.554	-21.596	-22.659	-23.519	-24.287	5.0	-24.250	-27.750	-32.750	-29.250	-31.375	
10.0	-11.660	-14.403	-18.029	-19.528	-19.726	-21.575	10.0	-21.833	-23.875	-25.500	-26.933	-25.500	
25.0	-7.094	-9.531	-11.292	-12.862	-14.375	-15.898	25.0	-15.937	-17.917	-19.750	-18.437	-19.107	
50.0	-2.466	-4.470	-5.156	-5.608	-5.500	-7.905	50.0	-9.500	-9.643	-12.500	-8.750	-14.062	
75.0	2.465	3.094	2.560	3.207	1.172	-0.038	75.0	-2.708	-4.250	-6.607	-3.750	-8.125	
90.0	7.860	9.553	10.150	13.100	12.767	11.654	90.0	5.500	0.250	5.500	17.750	17.750	
95.0	10.107	14.575	16.917	17.575	19.150	17.150	95.0	12.750	7.750	3.875	36.375	22.750	
99.0	18.050	32.075	37.288	29.150	29.150	24.164	99.0	23.550	13.550	38.550	39.275	33.550	
NO. OF		217.		217.		217.		29.		29.		29.	
OBS.		217.		217.		217.		OBS.		29.		29.	

TABLE IVb (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED 60 TO 70 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0 -29.575			-39.717			-39.575			-14.944		
5.0 -27.075			-38.583			-37.075			-17.250		
10.0 -25.750			-37.167			-35.750			-11.786		
25.0 -19.583			-28.750			-34.125			-12.083		
50.0 -8.750			-19.167			-30.937			-9.375		
75.0 -1.562			-10.625			-21.875			-9.038		
90.0 3.250			3.250			-15.417			-6.100		
95.0 5.750			10.750			-12.633			-5.937		
99.0 9.150			14.150			-11.417			-1.406		
NO. OF			NO. OF			NO. OF			NO. OF		
OBS. 17. 17. 17. 17. 17. 17.			OBS. 17. 17. 17. 17. 17. 17.			OBS. 110. 110. 110. 110. 110. 110.			OBS. 110. 110. 110. 110. 110. 110.		

FOR MONTH OF			APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0 -8.475			-9.390			-8.983			-19.540		
5.0 -4.737			-6.950			-4.985			-17.700		
10.0 -3.975			-4.656			-4.088			-18.083		
25.0 -1.687			-1.797			-1.397			-16.167		
50.0 1.371			2.159			3.500			-15.400		
75.0 3.831			5.982			8.977			-10.417		
90.0 6.188			9.250			13.375			-3.571		
95.0 8.034			11.188			14.950			2.500		
99.0 9.619			14.238			18.688			4.643		
NO. OF			NO. OF			NO. OF			NO. OF		
OBS. 61. 61. 61. 61. 61. 61.			OBS. 61. 61. 61. 61. 61. 61.			OBS. 46. 46. 46. 46. 46. 46.			OBS. 46. 46. 46. 46. 46. 46.		

TABLE IVb (cont'd)

FOR MONTH OF		APRIL		INITIAL WIND SPEED		30 TO 40 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		315 TO 360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)					
		ELAPSED TIME IN HOURS					
PERCENT		24	36	48	60	72	
LEVELS	12						
1.0	-19.150	-24.150	-19.894	-29.150	-19.858	-24.150	
5.0	-15.750	-20.750	-19.469	-25.750	-19.292	-20.750	
10.0	-14.125	-19.125	-18.937	-21.500	-18.583	-18.250	
25.0	-10.937	-15.937	-17.344	-17.167	-16.458	-13.437	
50.0	-3.125	-10.625	-13.750	-13.214	-10.633	-3.125	
75.0	2.168	-0.625	-7.250	-10.179	-3.750	4.375	
90.0	5.750	3.833	5.750	-6.167	5.750	10.750	
95.0	7.875	10.750	7.875	5.750	7.875	12.875	
99.0	9.575	14.150	9.575	9.150	9.575	14.575	
NO. OF							
OBS.		17.	17.	17.	17.	17.	17.



TABLE IVc (cont'd)

FOR MONTH OF APRIL														INITIAL WIND SPEED 30 TO 40 (M/SEC)														INITIAL WIND SPEED 50 TO 60 (M/SEC)													
ALTITUDE 11 TO 15 (KM)														INITIAL DIRECTION 225 TO 270 (DEG)														INITIAL DIRECTION 225 TO 270 (DEG)													
WIND SPEED CHANGE VALUES (M/SEC)														WIND SPEED CHANGE VALUES (M/SEC)														WIND SPEED CHANGE VALUES (M/SEC)													
PERCENT														ELAPSED TIME IN HOURS														ELAPSED TIME IN HOURS													
LEVELS 12 24 36 48 60 72														LEVELS 12 24 36 48 60 72														LEVELS 12 24 36 48 60 72													
1.0 -14.920 -22.100 -24.867 -27.300 -28.840 -29.033														1.0 -24.883 -29.883 -34.825 -38.575 -39.287 -39.287														1.0 -24.883 -29.883 -34.825 -38.575 -39.287 -39.287													
5.0 -10.600 -13.667 -19.263 -22.571 -22.333 -23.733														5.0 -21.083 -26.083 -29.500 -32.875 -36.437 -36.437														5.0 -21.083 -26.083 -29.500 -32.875 -36.437 -36.437													
10.0 -8.286 -10.667 -16.421 -18.364 -17.800 -20.133														10.0 -18.429 -22.556 -25.429 -28.455 -30.750 -29.833														10.0 -18.429 -22.556 -25.429 -28.455 -30.750 -29.833													
25.0 -3.627 -5.588 -7.105 -8.857 -10.862 -10.962														25.0 -12.115 -16.324 -18.654 -19.500 -22.321 -23.167														25.0 -12.115 -16.324 -18.654 -19.500 -22.321 -23.167													
50.0 2.024 2.222 1.452 -1.143 -1.364 -2.187														50.0 -4.286 -5.882 -8.824 -12.857 -13.846 -15.250														50.0 -4.286 -5.882 -8.824 -12.857 -13.846 -15.250													
75.0 7.843 9.675 9.444 3.310 8.667 8.409														75.0 3.750 2.969 0.938 -3.864 -4.750 -3.854														75.0 3.750 2.969 0.938 -3.864 -4.750 -3.854													
90.0 13.059 15.200 17.000 15.636 16.308 15.700														90.0 9.250 9.818 10.889 5.600 8.286 7.167														90.0 9.250 9.818 10.889 5.600 8.286 7.167													
95.0 17.333 21.200 21.200 21.500 20.857 21.571														95.0 13.300 13.786 14.056 14.417 16.625 12.300														95.0 13.300 13.786 14.056 14.417 16.625 12.300													
99.0 23.840 32.100 29.840 31.400 29.733 37.300														99.0 23.575 18.575 23.100 19.825 24.650 19.650														99.0 23.575 18.575 23.100 19.825 24.650 19.650													
NO. OF OBS. 216. 216. 216. 216. 216. 216.														NO. OF OBS. 114. 114. 114. 114. 114. 114.														NO. OF OBS. 114. 114. 114. 114. 114. 114.													

FOR MONTH OF APRIL														INITIAL WIND SPEED 40 TO 50 (M/SEC)														INITIAL WIND SPEED 60 TO 70 (M/SEC)													
ALTITUDE 11 TO 15 (KM)														INITIAL DIRECTION 225 TO 270 (DEG)														INITIAL DIRECTION 225 TO 270 (DEG)													
WIND SPEED CHANGE VALUES (M/SEC)														WIND SPEED CHANGE VALUES (M/SEC)														WIND SPEED CHANGE VALUES (M/SEC)													
PERCENT														ELAPSED TIME IN HOURS														ELAPSED TIME IN HOURS													
LEVELS 12 24 36 48 60 72														LEVELS 12 24 36 48 60 72														LEVELS 12 24 36 48 60 72													
1.0 -23.325 -24.165 -30.550 -35.550 -38.517 -38.331														1.0 -28.575 -37.150 -39.430 -39.593 -39.644 -39.683														1.0 -28.575 -37.150 -39.430 -39.593 -39.644 -39.683													
5.0 -15.325 -19.440 -23.825 -28.477 -32.583 -31.656														5.0 -23.937 -29.292 -37.150 -37.964 -38.219 -38.417														5.0 -23.937 -29.292 -37.150 -37.964 -38.219 -38.417													
10.0 -11.658 -16.262 -18.643 -22.808 -25.650 -25.885														10.0 -20.375 -26.917 -34.300 -35.929 -36.437 -36.833														10.0 -20.375 -26.917 -34.300 -35.929 -36.437 -36.833													
25.0 -6.625 -8.142 -11.827 -13.419 -15.433 -18.007														25.0 -13.375 -21.528 -26.458 -28.393 -31.875 -29.375														25.0 -13.375 -21.528 -26.458 -28.393 -31.875 -29.375													
50.0 -1.588 -1.893 -3.041 -5.167 -7.108 -9.734														50.0 -6.250 -12.500 -13.750 -17.083 -19.167 -21.944														50.0 -6.250 -12.500 -13.750 -17.083 -19.167 -21.944													
75.0 4.601 5.590 4.609 4.449 0.580 -2.147														75.0 2.679 -1.562 -5.781 -8.542 -7.656 -9.125														75.0 2.679 -1.562 -5.781 -8.542 -7.656 -9.125													
90.0 11.767 12.441 12.861 11.344 9.250 6.955														90.0 9.417 7.875 5.300 -0.700 -0.700 -4.250														90.0 9.417 7.875 5.300 -0.700 -0.700 -4.250													
95.0 16.825 17.114 17.825 17.063 14.096 13.325														95.0 13.983 12.875 8.150 5.375 6.917 5.750														95.0 13.983 12.875 8.150 5.375 6.917 5.750													
99.0 24.330 25.825 23.517 24.165 24.330 21.663														99.0 28.575 22.150 12.150 22.150 17.150 13.575														99.0 28.575 22.150 12.150 22.150 17.150 13.575													
NO. OF OBS. 267. 267. 267. 267. 267. 267.														NO. OF OBS. 57. 57. 57. 57. 57. 57.														NO. OF OBS. 57. 57. 57. 57. 57. 57.													



TABLE IVc (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED 70 TO 80 (M/SEC)			FOR MONTH OF			APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72			
1.0	-29.350	-39.350	-39.675	-39.350	-39.675	-39.783	1.0	-11.450	-12.633	-13.580	-13.225	-13.986	-14.408	1.0	-11.450	-12.633	-13.580	-13.225	-13.986	-14.408
5.0	-26.750	-36.750	-38.375	-36.750	-38.375	-38.917	5.0	-8.658	-9.109	-9.562	-9.500	-9.975	-12.042	5.0	-8.658	-9.109	-9.562	-9.500	-9.975	-12.042
10.0	-23.500	-33.500	-36.750	-33.500	-36.750	-37.833	10.0	-6.789	-7.565	-8.083	-8.355	-8.200	-9.450	10.0	-6.789	-7.565	-8.083	-8.355	-8.200	-9.450
25.0	-18.437	-28.437	-31.875	-28.958	-28.750	-34.375	25.0	-3.490	-3.895	-3.700	-4.881	-2.976	-3.654	25.0	-3.490	-3.895	-3.700	-4.881	-2.976	-3.654
50.0	-13.750	-23.750	-23.500	-26.250	-20.833	-27.500	50.0	0.278	0.323	2.656	4.167	5.926	6.304	50.0	0.278	0.323	2.656	4.167	5.926	6.304
75.0	-3.750	-15.625	-20.250	-16.250	-15.417	-20.625	75.0	5.259	6.548	9.457	12.237	13.553	13.854	75.0	5.259	6.548	9.457	12.237	13.553	13.854
90.0	-0.500	-10.750	-12.167	-10.750	-10.750	-11.500	90.0	8.931	12.267	14.947	21.500	24.143	22.800	90.0	8.931	12.267	14.947	21.500	24.143	22.800
95.0	6.750	6.750	-11.083	-8.250	1.750	1.750	95.0	10.750	14.633	20.750	28.625	29.917	32.250	95.0	10.750	14.633	20.750	28.625	29.917	32.250
99.0	9.350	9.350	-10.217	-5.650	4.350	4.350	99.0	16.450	21.450	27.900	37.633	38.225	38.817	99.0	16.450	21.450	27.900	37.633	38.225	38.817
NO. OF	OBS.		13.	13.	13.	13.	NO. OF	OBS.		142.	142.	142.	142.	NO. OF	OBS.		142.	142.	142.	142.

FOR MONTH OF			APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			APRIL			INITIAL WIND SPEED 20 TO 30 (M/SEC)					
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72			
1.0	-9.433	-4.630	-4.787	-8.300	-9.150	1.0	-15.800	-18.800	-18.660	-18.800	-19.622	1.0	-15.800	-18.800	-18.660	-18.800	-19.622			
5.0	-7.167	-4.150	-3.937	-4.611	-5.750	5.0	-9.605	-12.750	-14.227	-13.579	-14.500	5.0	-9.605	-12.750	-14.227	-13.579	-14.500			
10.0	-4.778	-3.300	-2.875	-3.667	-3.600	10.0	-8.047	-9.277	-11.182	-10.053	-11.708	10.0	-8.047	-9.277	-11.182	-10.053	-11.708			
25.0	-1.944	-0.750	0.313	-0.833	1.071	1.250	25.0	-4.167	-5.000	-5.625	-5.000	-5.143	25.0	-4.167	-5.000	-5.625	-5.000	-5.143		
50.0	2.273	3.182	5.833	7.000	10.000	9.000	50.0	-0.179	0.918	1.765	2.031	2.237	50.0	-0.179	0.918	1.765	2.031	2.237		
75.0	6.563	8.750	16.875	20.500	18.500	19.500	75.0	5.588	8.375	11.087	12.647	12.258	75.0	5.588	8.375	11.087	12.647	12.258		
90.0	9.750	14.500	26.000	28.000	29.333	33.250	90.0	9.529	14.121	16.500	18.903	21.333	90.0	9.529	14.121	16.500	18.903	21.333		
95.0	15.750	17.167	28.833	32.167	35.750	35.750	95.0	12.867	17.923	21.800	23.667	27.300	95.0	12.867	17.923	21.800	23.667	27.300		
99.0	19.150	19.433	33.300	34.433	39.150	39.150	99.0	19.320	23.800	29.320	35.533	36.650	99.0	19.320	23.800	29.320	35.533	36.650		
NO. OF	OBS.		34.	34.	34.	34.	NO. OF	OBS.		268.	268.	268.	268.	NO. OF	OBS.		268.	268.	268.	268.

TABLE IVc (cont'd)

FOR MONTH OF APRIL			INITIAL WIND SPEED 30 TO 40 (M/SEC)			INITIAL WIND SPEED 50 TO 60 (M/SEC)		
ALTIMETER 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	84	96
1.0	-19.110	-22.936	-25.275	-27.110	-28.819	-29.212	-30.212	-30.808
5.0	-13.137	-17.135	-18.985	-22.221	-23.054	-24.482	-25.031	-25.125
10.0	-9.798	-12.977	-14.878	-16.083	-16.865	-19.648	-20.562	-21.417
25.0	-5.186	-6.913	-8.831	-9.426	-10.350	-10.852	-11.368	-11.874
50.0	0.369	0.167	0.878	1.118	-0.417	-1.167	-1.315	-1.310
75.0	6.607	8.059	9.175	13.110	10.313	9.688	2.589	3.854
90.0	12.020	15.028	16.167	17.806	19.275	19.033	5.900	11.958
95.0	14.910	19.042	24.719	22.977	26.275	26.292	14.893	14.104
99.0	24.258	32.775	37.110	36.388	36.388	35.183	22.850	24.283
NO. OF OBS.	289.	289.	289.	289.	289.	289.	143.	143.

FOR MONTH OF APRIL			INITIAL WIND SPEED 40 TO 50 (M/SEC)			INITIAL WIND SPEED 60 TO 70 (M/SEC)		
ALTIMETER 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	84	96
1.0	-23.350	-30.875	-34.350	-33.821	-35.583	-35.583	-36.300	-36.300
5.0	-15.469	-19.034	-25.536	-26.719	-29.219	-29.062	-31.625	-31.917
10.0	-11.875	-16.023	-19.500	-21.250	-22.500	-24.167	-26.000	-26.500
25.0	-6.709	-8.630	-11.920	-11.728	-13.125	-14.062	-16.750	-19.306
50.0	-1.827	-2.664	-3.167	-4.198	-4.820	-4.330	-9.737	-13.836
75.0	4.390	4.219	4.494	3.508	3.711	3.170	-4.687	-2.500
90.0	9.792	12.167	13.194	13.036	12.917	14.425	7.667	4.667
95.0	15.795	17.375	18.068	18.875	18.594	20.417	12.875	7.750
99.0	21.888	23.821	24.536	28.917	30.875	28.917	18.150	21.300
NO. OF OBS.	285.	285.	285.	285.	285.	285.	74.	74.

TABLE IVc (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED			10 TO 20 (M/SEC)		
ALTIMETER			11 TO 15 (KM)			INITIAL DIRECTION			315 TO 360 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			12			24			36		
1.0			-39.300			-39.300			-34.650		
5.0			-36.500			-33.250			-38.250		
10.0			-31.000			-28.667			-31.500		
25.0			-19.167			-23.333			-25.000		
50.0			-11.667			-17.000			-15.833		
75.0			-2.500			-7.000			-6.667		
90.0			5.500			1.500			8.000		
95.0			9.000			3.250			18.000		
99.0			13.600			4.650			23.600		
NO. OF			OBS.			28.			28.		
OBS.			28.			28.			28.		
FOR MONTH OF			APRIL			INITIAL WIND SPEED			0 TO 10 (M/SEC)		
ALTIMETER			11 TO 15 (KM)			INITIAL DIRECTION			315 TO 360 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			12			24			36		
1.0			-8.900			-4.890			-9.633		
5.0			-4.950			-4.450			-8.167		
10.0			-4.400			-3.900			-6.333		
25.0			-2.750			-2.250			-2.500		
50.0			-0.			1.000			3.000		
75.0			4.583			7.500			10.833		
90.0			7.800			12.250			16.333		
95.0			8.900			13.625			18.167		
99.0			9.780			14.725			19.633		
NO. OF			OBS.			22.			22.		
OBS.			22.			22.			22.		

TABLE IVc (cont'd)

FOR MONTH OF				APRIL				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 40 TO 50 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				11 TO 15 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-17.550	-14.694	-19.387	-22.550	-14.592	-13.775		1.0	-19.675	-29.350	-24.350	-19.350	-19.350	-14.350	
5.0	-13.550	-13.469	-16.937	-16.375	-12.958	-9.550		5.0	-18.375	-26.750	-21.750	-16.750	-16.750	-11.750	
10.0	-11.100	-11.937	-14.100	-13.643	-10.917	-7.100		10.0	-16.750	-19.250	-18.500	-14.500	-14.250	-9.250	
25.0	-6.528	-6.458	-8.194	-7.750	-6.528	-2.375		25.0	-9.687	-14.375	-13.750	-11.250	-9.687	-4.687	
50.0	-2.031	-1.250	-0.937	-1.042	-0.250	4.688		50.0	-5.625	-8.500	-10.500	-7.500	-5.625	-0.625	
75.0	3.194	4.861	5.972	5.469	6.094	8.456		75.0	-2.708	-5.250	-0.625	-1.250	-0.417	9.375	
90.0	10.125	10.250	10.125	10.100	11.100	11.750		90.0	-1.083	13.500	13.500	13.500	26.750	18.500	
95.0	13.188	15.917	13.188	12.550	13.550	13.792		95.0	-0.942	16.750	16.750	26.750	26.375	21.750	
99.0	17.550	19.183	17.550	14.510	17.550	22.550		99.0	-0.108	19.350	19.350	29.350	29.675	24.350	
NO. OF								NO. OF							
OBS.	49.	49.	49.	49.	49.	49.		OBS.	13.	13.	13.	13.	13.	13.	

TABLE IVd

April, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-9.000	-9.000	-9.000	-8.750	-9.375	-9.615	1.0	-8.300	-8.980	-9.150	-9.271	-9.490	-9.362
5.0	-5.000	-5.000	-5.000	-4.896	-6.875	-8.077	5.0	-4.798	-4.989	-5.750	-6.357	-7.450	-6.812
10.0	-4.528	-4.444	-4.444	-4.375	-4.783	-6.154	10.0	-4.308	-4.447	-4.596	-4.667	-4.978	-4.780
25.0	-3.113	-2.778	-2.778	-2.812	-3.152	-3.378	25.0	-2.837	-2.819	-3.125	-3.073	-3.278	-3.250
50.0	-0.755	-0.	-0.	-0.208	-0.435	-0.	50.0	-0.385	-0.106	-0.673	-0.417	-0.444	-0.700
75.0	2.833	3.571	3.571	3.286	4.038	3.788	75.0	2.560	2.849	3.083	3.359	3.359	2.984
90.0	6.250	6.923	7.500	6.667	7.941	7.059	90.0	4.381	4.628	6.583	6.714	6.846	6.167
95.0	9.375	8.846	10.000	9.444	9.412	8.529	95.0	4.988	6.357	8.708	8.536	8.808	8.292
99.0	13.750	20.000	25.000	30.000	20.000	9.706	99.0	9.975	9.271	14.900	9.993	14.900	9.992
NO. OF OBS.	100.	100.	100.	100.	100.	100.	NO. OF OBS.	102.	102.	102.	102.	102.	102.

FOR MONTH OF APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-14.050	-9.810	-19.050	-14.683	-14.762	-14.525	1.0	-9.890	-14.450	-14.725	-14.817	-14.817
5.0	-10.250	-9.050	-15.250	-13.417	-13.812	-12.625	5.0	-9.450	-12.250	-13.625	-14.083	-14.083
10.0	-7.750	-8.100	-12.750	-11.833	-12.625	-10.250	10.0	-8.900	-9.875	-12.250	-13.167	-13.167
25.0	-3.906	-5.250	-5.625	-6.750	-9.375	-8.281	25.0	-7.250	-7.812	-8.750	-10.417	-10.417
50.0	-0.937	-2.750	-2.955	-5.357	-5.417	-5.312	50.0	-4.500	-4.167	-4.375	-5.833	-5.833
75.0	2.708	-0.375	-0.795	-1.964	-2.344	-1.458	75.0	-1.750	0.625	-0.937	0.625	2.083
90.0	5.250	5.500	5.250	0.250	-0.562	5.500	90.0	-0.100	4.750	4.500	4.750	4.633
95.0	7.625	10.250	7.625	2.625	5.250	10.250	95.0	2.250	22.250	17.250	17.250	17.250
99.0	9.525	14.050	9.525	4.525	9.050	14.050	99.0	4.450	24.450	19.450	19.450	19.450
NO. OF OBS.	19.	19.	19.	19.	19.	19.	NO. OF OBS.	11.	11.	11.	11.	11.

TABLE IVd (cont'd)

FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-9.375	-9.167	-8.750	-9.167	-9.167	-9.583	-9.500		1.0	-6.700	-4.863	-6.700	-6.700	-6.700	-7.400	-9.133	
5.0	-6.875	-5.833	-4.911	-5.833	-7.917	-7.500			5.0	-4.833	-4.316	-4.769	-4.769	-4.769	-4.273	-5.667	
10.0	-4.800	-4.565	-4.464	-4.500	-5.833	-5.000			10.0	-4.111	-3.632	-3.769	-3.769	-3.769	-3.091	-4.267	
25.0	-3.300	-2.935	-3.125	-2.625	-3.289	-3.558			25.0	-1.944	-1.579	-0.769	-0.769	-0.769	0.250	-1.667	
50.0	-0.800	-0.217	-0.893	0.625	-0.	-1.154			50.0	2.000	1.750	2.619	3.667	3.500	2.857		
75.0	2.856	3.194	3.409	4.531	3.906	2.955			75.0	7.222	5.000	6.250	3.462	7.333	8.182		
90.0	5.000	6.667	8.333	6.750	8.333	7.500			90.0	14.667	12.714	9.500	13.800	9.933	13.167		
95.0	10.833	10.833	11.250	11.250	11.250	9.583			95.0	19.000	14.971	13.500	18.500	18.500	16.000		
99.0	14.167	14.167	22.500	27.500	22.500	13.750			99.0	23.700	23.700	22.400	27.400	23.700	22.400		
NO. OF OBS.	50.	50.	50.	50.	50.	50.			NO. OF OBS.	52.	52.	52.	52.	52.	52.		

FOR MONTH OF APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-4.902	-4.875	-4.675	-7.750	-7.750	-7.750	-8.875		1.0	-19.500	-14.500	-14.500	-14.500	-14.500	-9.900	-14.500	
5.0	-4.511	-4.375	-4.375	-4.609	-4.632	-4.519	-4.917		5.0	-17.500	-12.500	-12.500	-12.500	-12.500	-9.500	-12.500	
10.0	-4.022	-3.750	-3.750	-3.906	-3.971	-3.654	-4.167		10.0	-10.000	-10.000	-10.000	-10.000	-10.000	-9.000	-10.000	
25.0	-2.554	-1.875	-1.875	-1.797	-1.985	-1.058	-1.917		25.0	-8.125	-6.500	-7.500	-7.500	-7.500	-4.167		
50.0	-0.109	1.731	1.618	1.500	1.500	2.500	1.833		50.0	-5.000	-6.000	-3.333	-2.500	-2.500	-0.		
75.0	3.162	6.719	4.926	5.536	6.250	6.094			75.0	3.750	2.500	6.250	12.500	3.750	8.750		
90.0	7.500	15.500	9.083	12.500	9.318	10.625			90.0	25.000	10.000	15.000	17.500	25.000	20.000		
95.0	16.875	17.750	16.875	17.917	11.250	13.438			95.0	27.500	12.500	17.500	18.750	27.500	22.500		
99.0	22.750	19.550	22.750	22.750	14.250	17.750			99.0	29.500	14.500	19.500	19.750	29.500	24.500		
NO. OF OBS.	45.	45.	45.	45.	45.	45.			NO. OF OBS.	10.	10.	10.	10.	10.	10.		

TABLE IVd (cont'd)

FOR MONTH OF APRIL				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF APRIL				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-7.450	-9.073	-8.867	-9.073	-9.320	-7.450		1.0	-18.900	-21.867	-22.800	-23.433	-23.120	-25.300	
5.0	-4.592	-5.364	-4.897	-5.364	-6.600	-4.581		5.0	-13.533	-16.800	-17.538	-18.786	-18.625	-21.300	
10.0	-3.921	-4.041	-4.017	-4.175	-4.437	-3.892		10.0	-10.400	-13.389	-14.391	-15.429	-15.687	-17.167	
25.0	-1.908	-0.918	-1.379	-1.491	-1.250	-1.824		25.0	-4.737	-8.095	-8.667	-10.345	-10.806	-10.400	
50.0	1.594	3.088	2.823	2.576	3.250	2.264		50.0	-0.614	-2.375	-2.396	-4.744	-4.255	-5.109	
75.0	5.541	7.660	7.553	7.500	8.061	7.619		75.0	5.395	4.667	3.871	2.778	1.458	0.263	
90.0	9.676	12.529	12.923	12.900	13.222	13.313		90.0	9.105	10.083	9.077	5.208	7.947	7.318	
95.0	12.600	16.500	18.000	16.500	17.111	17.667		95.0	11.444	14.000	12.875	12.333	12.000	9.455	
99.0	19.800	24.950	29.800	28.267	27.400	24.950		99.0	17.800	20.300	21.867	16.867	19.267	21.867	
NO. OF								NO. OF							
OBS.	204.	204.	204.	204.	204.	204.		OBS.	188.	188.	188.	188.	188.	188.	

FOR MONTH OF APRIL				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF APRIL				INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-11.975	-13.817	-13.271	-13.900	-15.967	-14.606		1.0	-25.800	-27.900	-22.900	-25.800	-28.600	-25.800	
5.0	-8.905	-9.378	-9.490	-9.878	-11.750	-11.917		5.0	-17.000	-18.000	-18.167	-19.333	-22.000	-21.800	
10.0	-7.270	-7.902	-8.280	-8.533	-9.390	-9.587		10.0	-12.571	-13.909	-14.875	-17.000	-18.583	-18.800	
25.0	-3.917	-4.144	-4.750	-4.722	-6.314	-6.706		25.0	-7.955	-9.000	-10.937	-11.786	-13.889	-13.913	
50.0	-0.556	-0.	-0.429	-0.988	-1.371	-1.579		50.0	-3.400	-3.958	-5.000	-5.556	-7.308	-8.846	
75.0	4.591	5.786	6.328	5.417	6.058	5.250		75.0	2.222	0.769	0.833	-0.476	0.625	-1.333	
90.0	10.235	12.000	13.368	12.750	13.591	12.600		90.0	7.923	6.333	4.333	4.077	7.333	4.300	
95.0	13.794	16.056	17.950	19.900	17.950	18.500		95.0	9.538	9.833	8.000	8.000	9.083	9.667	
99.0	18.986	25.967	26.450	25.967	25.967	24.211		99.0	15.800	15.800	15.800	13.600	12.900	15.800	
NO. OF								NO. OF							
OBS.	242.	242.	242.	242.	242.	242.		OBS.	84.	84.	84.	84.	84.	84.	

TABLE IVd (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED 40 TO 50 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.250	-24.250	-29.250	-29.250	-39.250	1.0	-12.220	-14.250	-14.305	-14.555	-14.370
5.0	-16.250	-21.250	-26.250	-26.250	-36.250	5.0	-9.104	-9.682	-10.525	-10.775	-11.850
10.0	-13.750	-18.750	-23.750	-23.750	-32.500	10.0	-7.792	-8.455	-9.034	-9.151	-9.487
25.0	-9.464	-13.750	-18.750	-19.250	-23.125	25.0	-4.431	-4.864	-5.776	-6.102	-5.757
50.0	-6.786	-8.929	-13.125	-15.500	-14.500	50.0	-1.172	-1.202	-1.760	-1.408	-1.391
75.0	-3.437	-6.250	-7.917	-3.583	-10.750	75.0	2.081	4.233	4.139	4.962	4.223
90.0	-0.625	-2.500	-2.500	-5.833	-2.500	90.0	6.794	8.697	9.620	10.550	11.000
95.0	6.250	16.250	1.250	1.250	1.250	95.0	9.574	11.794	13.595	15.367	14.635
99.0	9.250	19.250	4.250	4.250	4.250	99.0	14.364	17.638	19.610	21.525	23.014
NO. OF	15.	15.	15.	15.	15.	NO. OF	378.	378.	378.	378.	378.
OBS.	15.	15.	15.	15.	15.	OBS.	378.	378.	378.	378.	378.

FOR MONTH OF			APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.694	-8.932	-9.021	-9.096	-9.362	1.0	-21.987	-23.975	-21.475	-22.590	-20.983
5.0	-4.862	-4.956	-5.104	-5.481	-6.908	5.0	-13.650	-15.975	-14.647	-17.926	-17.486
10.0	-4.275	-4.273	-4.361	-4.429	-4.700	10.0	-9.898	-12.896	-12.569	-14.682	-14.569
25.0	-2.512	-2.224	-2.403	-2.514	-2.350	25.0	-6.551	-8.082	-8.437	-9.570	-10.639
50.0	0.494	1.281	1.157	0.906	1.865	50.0	-2.471	-3.367	-3.945	-4.583	-4.550
75.0	3.910	4.953	5.725	5.304	7.238	75.0	2.084	1.219	1.625	1.629	1.825
90.0	7.661	9.313	9.250	10.208	13.026	90.0	7.096	6.735	8.180	7.673	10.250
95.0	9.556	12.604	12.361	15.156	16.932	95.0	9.413	10.792	11.229	9.990	13.597
99.0	16.625	19.563	18.875	22.750	23.313	99.0	14.707	19.590	16.475	17.650	21.475
NO. OF	235.	235.	235.	235.	235.	NO. OF	241.	241.	241.	241.	241.
OBS.	235.	235.	235.	235.	235.	OBS.	241.	241.	241.	241.	241.



TABLE IVd (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF			APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-24.250	-24.750	-28.562	-24.850	-29.750	-29.625	1.0	-8.460	-9.075	-9.230	-9.230	-8.460	1.0	-8.460	-9.230	-9.230	-8.460
5.0	-16.250	-18.250	-20.625	-20.250	-22.083	-23.281	5.0	-4.829	-4.750	-6.150	-6.150	-4.759	5.0	-4.829	-6.150	-6.150	-4.759
10.0	-12.500	-14.306	-16.562	-17.708	-18.676	-19.722	10.0	-4.342	-4.230	-4.571	-4.542	-4.071	10.0	-4.342	-4.230	-4.571	-4.071
25.0	-7.723	-9.650	-12.050	-12.312	-13.417	-13.317	25.0	-2.880	-2.669	-2.738	-2.585	-2.009	25.0	-2.880	-2.669	-2.738	-2.009
50.0	-2.589	-3.625	-6.696	-4.917	-5.375	-6.974	50.0	-0.443	-0.068	0.370	0.714	-0.270	50.0	-0.443	-0.068	0.370	0.714
75.0	2.457	2.457	0.694	-0.125	-0.458	-0.913	75.0	3.214	3.024	3.935	4.152	4.662	75.0	3.214	3.024	3.935	4.152
90.0	6.250	6.250	8.654	6.611	7.813	7.500	90.0	6.556	4.887	8.053	5.250	10.571	90.0	6.556	4.887	8.053	5.250
95.0	9.125	9.125	12.813	15.417	12.250	13.750	95.0	8.594	7.864	10.188	12.944	13.321	95.0	8.594	7.864	10.188	12.944
99.0	19.250	13.563	19.750	27.125	24.250	22.125	99.0	13.650	13.650	14.038	19.100	18.650	99.0	13.650	13.650	14.038	19.100
NO. OF	115.	115.	115.	115.	115.	115.	NO. OF	154.	154.	154.	154.	154.	NO. OF	154.	154.	154.	154.
OBS.	115.	115.	115.	115.	115.	115.	OBS.	154.	154.	154.	154.	154.	OBS.	154.	154.	154.	154.

FOR MONTH OF			APRIL			INITIAL WIND SPEED 40 TO 50 (M/SEC)			FOR MONTH OF			APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-24.100	-33.200	-33.200	-29.100	-29.550	-33.200	1.0	-12.825	-14.275	-14.130	-14.130	-14.379	1.0	-12.825	-14.275	-14.130	-14.379
5.0	-20.500	-23.000	-26.000	-25.500	-27.750	-28.667	5.0	-9.161	-11.375	-10.650	-10.650	-11.893	5.0	-9.161	-11.375	-10.650	-11.893
10.0	-14.700	-19.250	-22.333	-21.000	-25.500	-25.667	10.0	-7.607	-9.325	-9.315	-9.229	-9.575	10.0	-7.607	-9.325	-9.315	-9.575
25.0	-12.000	-13.889	-16.000	-15.833	-18.333	-18.000	25.0	-4.413	-6.062	-6.898	-6.510	-6.312	25.0	-4.413	-6.062	-6.898	-6.312
50.0	-4.286	-8.571	-8.333	-10.556	-11.875	-12.000	50.0	-2.194	-2.569	-3.017	-2.500	-1.700	50.0	-2.194	-2.569	-3.017	-1.700
75.0	1.975	-2.500	-2.500	-5.556	-6.667	-7.727	75.0	0.083	1.016	1.328	2.788	4.141	75.0	0.083	1.016	1.328	2.788
90.0	5.500	5.500	6.000	6.750	2.000	-5.273	90.0	4.433	5.167	5.650	7.607	8.592	90.0	4.433	5.167	5.650	7.607
95.0	7.750	7.750	10.500	9.000	10.500	3.000	95.0	7.850	7.583	7.825	9.161	12.650	95.0	7.850	7.583	7.825	9.161
99.0	9.550	9.550	14.100	13.200	14.100	13.200	99.0	12.825	9.517	9.565	12.825	17.825	99.0	12.825	9.517	9.565	12.825
NO. OF	36.	36.	36.	36.	36.	36.	NO. OF	87.	87.	87.	87.	87.	NO. OF	87.	87.	87.	87.
OBS.	36.	36.	36.	36.	36.	36.	OBS.	87.	87.	87.	87.	87.	OBS.	87.	87.	87.	87.

TABLE IV

April, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF APRIL				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)							
ALTIITUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)							
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS							
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-8.690	-8.690	-8.690	-9.229	-8.908	-8.992	-8.690	1.0	-9.080	-9.107	-9.277	-9.310	-9.416	-9.540	-9.701
5.0	-4.872	-4.866	-4.866	-6.147	-4.953	-4.996	-4.860	5.0	-5.402	-5.537	-6.387	-6.551	-7.082	-7.701	-8.402
10.0	-4.331	-4.302	-4.302	-4.603	-4.398	-4.426	-4.270	10.0	-4.526	-4.564	-4.671	-4.720	-4.846	-5.071	-5.402
25.0	-2.707	-2.608	-2.608	-2.909	-2.733	-2.717	-2.500	25.0	-2.967	-3.076	-3.068	-3.192	-3.231	-3.485	-3.804
50.0	-0.	0.236	-0.086	0.052	0.163	0.163	0.481	50.0	-0.368	-0.596	-0.596	-0.846	-0.846	-1.004	-1.204
75.0	3.119	3.325	3.273	3.464	3.723	3.723	3.630	75.0	2.795	2.705	2.930	2.845	2.929	2.710	2.510
90.0	4.990	5.679	6.074	6.441	7.026	6.636	6.621	90.0	4.749	4.843	5.026	5.442	5.421	5.110	4.800
95.0	7.688	8.018	8.500	8.368	8.705	8.621	8.621	95.0	7.027	7.319	7.642	7.971	7.829	7.682	7.400
99.0	9.671	9.889	12.380	9.909	10.633	11.725	11.725	99.0	9.666	9.699	9.735	9.994	9.736	9.740	9.740
NO. OF OBS.	262.	262.	262.	262.	262.	262.	262.	NO. OF OBS.	607.	607.	607.	607.	607.	607.	607.
FOR MONTH OF APRIL				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)							
ALTIITUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)							
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS							
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-14.200	-14.600	-14.600	-14.800	-14.840	-14.600	-14.733	1.0	-11.983	-13.707	-13.994	-14.177	-14.711	-14.711	-14.468
5.0	-11.000	-13.000	-14.000	-14.200	-14.200	-13.000	-13.667	5.0	-9.297	-9.750	-9.996	-10.886	-12.125	-12.338	-12.338
10.0	-9.400	-11.000	-13.000	-13.400	-13.400	-11.000	-12.333	10.0	-6.244	-6.646	-6.646	-9.229	-9.388	-9.750	-9.921
25.0	-7.000	-8.000	-10.000	-11.000	-11.000	-8.571	-9.167	25.0	-5.087	-5.335	-5.335	-6.928	-7.047	-7.560	-7.982
50.0	-3.000	-4.000	-6.000	-6.125	-5.714	-5.833	-5.833	50.0	-2.819	-2.937	-2.937	-3.645	-3.689	-4.167	-4.773
75.0	1.000	-0.	-2.000	-3.625	-2.500	-2.000	-2.000	75.0	-0.600	-0.740	-0.740	-0.919	-0.930	-1.373	-1.834
90.0	3.400	3.000	1.000	-2.667	-0.500	1.000	1.000	90.0	2.661	2.479	2.204	2.380	2.380	1.289	-0.071
95.0	4.200	4.000	3.000	-1.333	1.000	3.000	3.000	95.0	4.277	4.365	3.680	4.190	3.671	2.650	2.650
99.0	4.840	4.800	4.600	-0.267	4.200	4.600	4.600	99.0	6.190	6.492	6.983	6.190	7.738	5.475	5.475
NO. OF OBS.	16.	16.	16.	16.	16.	16.	16.	NO. OF OBS.	161.	161.	161.	161.	161.	161.	161.

TABLE IVe (cont'd)

FOR MONTH OF		APRIL		INITIAL WIND SPEED		0 TO 10 (M/SEC)		INITIAL WIND SPEED		0 TO 10 (M/SEC)				
ALTITUDE 21 TO 25 (KM)		21 TO 25 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)		INITIAL DIRECTION		135 TO 180 (DEG)				
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)				
LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.184	-9.184	-9.252	-9.402	-9.402	-9.487	1.0	-9.050	-9.169	-9.169	-9.169	-8.892	-9.169	-9.050
5.0	-5.920	-5.920	-6.260	-7.008	-7.008	-7.436	5.0	-5.250	-5.844	-5.844	-5.844	-4.929	-5.844	-5.250
10.0	-4.579	-4.598	-4.619	-4.823	-4.816	-4.972	10.0	-4.357	-4.459	-4.459	-4.411	-4.207	-4.448	-4.382
25.0	-2.947	-3.042	-2.893	-3.211	-3.133	-3.278	25.0	-2.321	-2.423	-2.423	-2.194	-2.038	-2.370	-2.426
50.0	-0.227	-0.448	-0.016	-0.524	-0.328	-0.456	50.0	0.761	0.864	0.864	1.107	1.368	1.117	0.944
75.0	3.092	2.750	3.433	3.036	3.703	3.763	75.0	3.170	3.886	3.886	3.832	4.505	4.654	4.639
90.0	5.419	4.744	6.638	5.910	7.462	7.347	90.0	4.616	7.026	7.026	6.781	6.063	8.212	8.340
95.0	7.845	6.973	8.881	8.212	9.156	8.794	95.0	5.844	8.776	8.776	8.859	9.448	9.490	9.670
99.0	9.785	9.538	13.006	10.683	13.006	9.952	99.0	9.169	11.675	11.675	12.783	14.450	13.338	14.588
NO. OF							NO. OF							
OBS.	359.	359.	359.	359.	359.	359.	OBS.	133.	133.	133.	133.	133.	133.	133.

FOR MONTH OF		APRIL		INITIAL WIND SPEED		10 TO 20 (M/SEC)		INITIAL WIND SPEED		0 TO 10 (M/SEC)				
ALTITUDE 21 TO 25 (KM)		21 TO 25 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)		INITIAL DIRECTION		180 TO 225 (DEG)				
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)				
LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-13.125	-16.250	-16.250	-18.125	-16.250	-14.659	1.0	-9.129	-8.983	-8.983	-8.983	-8.983	-9.129	-9.129
5.0	-9.271	-9.750	-9.856	-14.028	-13.281	-13.295	5.0	-5.643	-4.991	-4.988	-4.988	-4.989	-5.643	-5.643
10.0	-7.708	-8.500	-9.135	-11.944	-10.937	-11.591	10.0	-4.594	-4.446	-4.262	-4.262	-4.311	-4.381	-4.366
25.0	-4.391	-4.699	-6.971	-7.961	-8.319	-8.789	25.0	-3.164	-2.812	-2.083	-2.083	-2.278	-2.202	-2.134
50.0	-1.987	-2.365	-3.534	-3.750	-3.086	-5.859	50.0	-0.781	-0.089	1.048	1.048	1.042	1.304	1.512
75.0	0.903	0.521	-0.302	-0.625	-1.350	-2.120	75.0	2.847	3.010	3.508	3.508	4.219	4.620	5.096
90.0	4.028	5.417	4.750	3.125	2.500	0.938	90.0	6.077	4.878	4.984	4.984	7.571	7.960	8.615
95.0	5.313	8.542	7.708	4.688	4.583	3.281	95.0	8.423	8.063	7.950	7.950	9.024	9.180	9.788
99.0	9.062	13.125	11.250	11.250	8.750	6.250	99.0	11.950	12.967	11.950	11.950	11.950	13.900	13.780
NO. OF							NO. OF							
OBS.	75.	75.	75.	75.	75.	75.	OBS.	122.	122.	122.	122.	122.	122.	122.

TABLE IVe (cont'd)

FOR MONTH OF			APRIL			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTIMITUDE 21 TO 25 (KM)			APRIL			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-9.075	-9.383	-9.339	-9.159	-9.288	-9.075		1.0	-8.242	-8.242	-8.828	-9.188	-9.297	-9.297
5.0	-5.375	-6.917	-6.696	-5.795	-6.442	-5.375		5.0	-4.770	-4.765	-4.921	-5.942	-6.483	-6.483
10.0	-4.511	-4.770	-4.712	-4.531	-4.638	-4.455		10.0	-4.237	-4.222	-4.383	-4.534	-4.653	-4.668
25.0	-2.917	-2.944	-2.933	-2.797	-2.812	-2.676		25.0	-2.639	-2.590	-2.768	-2.716	-2.855	-2.948
50.0	-0.259	0.112	0.040	0.114	0.273	0.395		50.0	0.030	0.162	-0.077	0.348	0.167	-0.082
75.0	2.899	3.563	3.770	3.617	3.887	4.452		75.0	3.247	3.588	3.285	3.687	3.683	3.714
90.0	4.826	6.848	7.500	7.065	7.700	8.707		90.0	5.604	6.833	5.980	7.180	7.380	7.482
95.0	7.411	8.859	9.350	9.076	9.550	10.972		95.0	7.802	8.787	8.090	9.290	9.490	9.366
99.0	15.375	13.583	15.375	13.938	15.375	15.375		99.0	9.560	13.150	9.778	14.890	14.207	14.890
NO. OF								NO. OF						
OBS.	185.	185.	185.	185.	185.	185.		OBS.	211.	211.	211.	211.	211.	211.

FOR MONTH OF			APRIL			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTIMITUDE 21 TO 25 (KM)			APRIL			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-14.587	-14.670	-14.587	-14.817	-14.450	-14.587		1.0	-13.875	-12.750	-14.437	-13.875	-12.750	-9.906
5.0	-12.937	-13.350	-12.937	-14.083	-12.250	-12.937		5.0	-9.875	-9.702	-12.187	-9.937	-9.702	-9.531
10.0	-10.675	-11.700	-10.675	-13.167	-9.921	-10.675		10.0	-8.750	-9.167	-9.875	-9.375	-9.167	-9.062
25.0	-8.365	-8.984	-8.750	-10.417	-8.618	-8.672		25.0	-5.375	-7.560	-8.187	-7.687	-7.560	-7.656
50.0	-5.192	-6.406	-6.324	-7.115	-6.447	-6.094		50.0	-2.717	-4.853	-5.375	-4.886	-4.881	-5.312
75.0	-1.477	-2.917	-3.125	-3.281	-3.281	-2.031		75.0	-0.272	-1.544	-2.434	-2.330	-2.202	-1.518
90.0	2.833	-0.167	-0.650	-0.187	-0.187	4.250		90.0	3.056	1.250	-0.658	-0.795	-0.595	2.500
95.0	5.875	3.375	5.875	3.375	6.750	10.675		95.0	4.306	3.125	-0.066	-0.284	-0.060	4.750
99.0	9.175	8.350	9.175	8.350	13.350	14.175		99.0	7.750	4.825	3.875	12.750	3.875	12.750
NO. OF								NO. OF						
OBS.	33.	33.	33.	33.	33.	33.		OBS.	45.	45.	45.	45.	45.	45.

TABLE IVe (cont'd)

FOR MONTH OF		APRIL		INITIAL WIND SPEED		U TO		10 (M/SEC)	
ALTITUDE		21 TO 25 (KM)		INITIAL DIRECTION		315 TO 360 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72		
1.0		-8.580	-8.817	-8.580	-7.633	-9.112	-8.986		
5.0		-4.846	-4.900	-4.812	-4.689	-5.562	-4.992		
10.0		-4.324	-4.255	-4.179	-4.152	-4.483	-4.390		
25.0		-2.757	-2.318	-2.277	-2.538	-2.708	-2.585		
50.0		-0.147	0.862	0.943	0.204	0.306	0.532		
75.0		3.160	3.922	4.292	3.827	3.929	4.309		
90.0		5.600	7.095	7.760	7.042	7.700	8.083		
95.0		7.967	8.786	9.180	8.521	9.475	9.563		
99.0		9.860	11.450	12.633	9.704	13.580	13.580		
NO. OF		142.		142.		142.		142.	
OBS.		142.		142.		142.		142.	

TABLE Va

May, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MAY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT				PERCENT				PERCENT			
LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72			
1.0 -6.937 -9.058 -9.125 -9.183 -8.979 -9.058				1.0 -9.054 -8.462 -8.633 -9.180 -8.975 -8.633				1.0 -9.054 -8.462 -8.633 -9.180 -8.975 -8.633			
5.0 -4.670 -5.288 -5.625 -5.917 -4.989 -5.288				5.0 -5.269 -4.815 -4.849 -5.900 -4.985 -4.841				5.0 -5.269 -4.815 -4.849 -5.900 -4.985 -4.841			
10.0 -4.180 -4.513 -4.527 -4.534 -4.427 -4.496				10.0 -4.389 -4.284 -4.284 -4.473 -4.351 -4.250				10.0 -4.389 -4.284 -4.284 -4.473 -4.351 -4.250			
25.0 -2.710 -2.956 -2.872 -2.733 -2.741 -2.884				25.0 -2.447 -2.694 -2.592 -2.445 -2.448 -2.476				25.0 -2.447 -2.694 -2.592 -2.445 -2.448 -2.476			
50.0 -0.260 -0.360 -0.113 0.281 0.079 -0.197				50.0 0.605 -0.043 0.287 0.787 0.795 0.556				50.0 0.605 -0.043 0.287 0.787 0.795 0.556			
75.0 2.882 2.997 3.416 3.406 3.303 3.358				75.0 3.085 3.218 3.822 3.634 4.290 3.972				75.0 3.085 3.218 3.822 3.634 4.290 3.972			
90.0 4.816 5.326 6.583 5.948 5.900 6.574				90.0 4.573 5.680 7.000 6.194 7.773 7.486				90.0 4.573 5.680 7.000 6.194 7.773 7.486			
95.0 7.303 7.989 8.625 8.060 8.350 8.843				95.0 5.654 8.140 8.500 8.177 9.170 9.149				95.0 5.654 8.140 8.500 8.177 9.170 9.149			
99.0 9.882 10.917 11.938 9.750 12.583 12.958				99.0 9.438 10.900 9.700 9.765 12.540 17.567				99.0 9.438 10.900 9.700 9.765 12.540 17.567			
NO. OF OBS. 245. 245. 245. 245. 245. 245.				NO. OF OBS. 246. 246. 246. 246. 246. 246.				NO. OF OBS. 246. 246. 246. 246. 246. 246.			
FOR MONTH OF MAY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT				PERCENT				PERCENT			
LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72			
1.0 -9.796 -9.890 -14.470 -14.706 -14.117 -14.470				1.0 -13.725 -12.450 -14.150 -13.725 -14.150 -14.362				1.0 -13.725 -12.450 -14.150 -13.725 -14.150 -14.362			
5.0 -8.981 -9.448 -12.350 -13.528 -10.583 -12.350				5.0 -9.750 -9.544 -10.750 -9.869 -10.750 -11.812				5.0 -9.750 -9.544 -10.750 -9.869 -10.750 -11.812			
10.0 -7.962 -8.896 -9.937 -12.056 -9.662 -9.957				10.0 -8.991 -8.794 -9.543 -9.262 -9.562 -9.711				10.0 -8.991 -8.794 -9.543 -9.262 -9.562 -9.711			
25.0 -4.957 -7.240 -8.281 -9.034 -8.493 -8.821				25.0 -5.114 -6.544 -7.880 -7.440 -7.969 -7.697				25.0 -5.114 -6.544 -7.880 -7.440 -7.969 -7.697			
50.0 -2.672 -4.403 -5.521 -6.023 -6.544 -6.929				50.0 -2.917 -3.437 -5.109 -4.306 -5.312 -4.375				50.0 -2.917 -3.437 -5.109 -4.306 -5.312 -4.375			
75.0 -0.388 -1.250 -2.014 -2.426 -3.942 -5.036				75.0 -0.792 -0.781 -0.917 -0.764 -0.673 -1.187				75.0 -0.792 -0.781 -0.917 -0.764 -0.673 -1.187			
90.0 3.167 2.250 0.700 -0.088 -0.885 -1.792				90.0 1.813 2.786 4.083 3.063 3.688 2.900				90.0 1.813 2.786 4.083 3.063 3.688 2.900			
95.0 4.639 4.458 3.350 2.350 0.875 -0.687				95.0 3.406 4.607 7.417 4.656 5.750 5.750				95.0 3.406 4.607 7.417 4.656 5.750 5.750			
99.0 12.350 8.675 7.350 4.470 7.350 2.350				99.0 4.681 12.450 8.725 9.150 9.150 9.150				99.0 4.681 12.450 8.725 9.150 9.150 9.150			
NO. OF OBS. 53. 53. 53. 53. 53. 53.				NO. OF OBS. 51. 51. 51. 51. 51. 51.				NO. OF OBS. 51. 51. 51. 51. 51. 51.			

TABLE Va (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 5 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.569	-9.046	-9.182	-9.182	-8.364	1.0	-7.237	-8.995	-9.150	-9.211	-8.619
5.0	-4.853	-5.229	-5.911	-5.911	-4.753	5.0	-4.667	-4.997	-5.750	-6.054	-4.825
10.0	-4.363	-4.518	-4.511	-4.483	-4.117	10.0	-4.146	-4.445	-4.550	-4.560	-4.190
25.0	-2.895	-2.998	-2.624	-2.485	-2.208	25.0	-2.583	-2.787	-2.908	-2.758	-2.284
50.0	-0.449	-0.465	0.534	0.853	1.080	50.0	0.029	-0.025	-0.175	0.313	0.804
75.0	2.461	2.597	3.750	4.221	4.205	75.0	3.204	3.221	3.450	4.149	4.092
90.0	4.268	4.506	6.891	8.014	8.797	90.0	5.452	5.690	6.904	7.903	7.887
95.0	4.871	5.911	8.680	9.650	11.063	95.0	8.083	8.321	9.029	9.438	9.551
99.0	9.194	9.182	11.183	13.728	14.879	99.0	11.317	12.238	13.790	14.790	16.975
NO. OF						NO. OF					
OBS.	229.	229.	229.	229.	229.	OBS.	221.	221.	221.	221.	221.

FOR MONTH OF MAY			INITIAL WIND SPEED 15 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 15 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-18.200	-13.200	-13.200	-13.200	-14.640	1.0	-14.300	-9.900	-9.912	-9.930	-9.936
5.0	-11.000	-9.429	-9.714	-9.765	-10.500	5.0	-11.500	-9.500	-9.562	-9.650	-9.682
10.0	-8.667	-8.143	-9.071	-9.235	-9.600	10.0	-9.600	-9.000	-9.125	-9.300	-9.364
25.0	-4.762	-4.783	-7.143	-7.647	-8.250	25.0	-7.500	-7.300	-7.812	-8.250	-8.409
50.0	-2.619	-2.826	-4.167	-5.000	-6.500	50.0	-4.375	-5.000	-5.625	-6.500	-6.818
75.0	-0.476	-0.870	-1.667	-1.786	-2.500	75.0	-2.187	-2.083	-2.500	-4.375	-5.227
90.0	2.429	1.400	-0.167	1.667	1.500	90.0	-0.875	-0.333	-0.400	-1.750	-1.000
95.0	3.714	3.200	2.000	3.667	9.000	95.0	-0.437	1.500	1.500	-0.875	1.500
99.0	4.743	4.640	4.400	8.200	18.200	99.0	-0.087	4.300	4.300	-0.175	4.300
NO. OF						NO. OF					
OBS.	36.	36.	36.	36.	36.	OBS.	14.	14.	14.	14.	14.

TABLE Va (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)	1 TO 5 (KM)	5 (KM)	INITIAL DIRECTION 180 TO 225 (DEG)	225 TO 270 (DEG)	270 (DEG)	ALTITUDE 1 TO 5 (KM)	1 TO 5 (KM)	5 (KM)	INITIAL DIRECTION 225 TO 270 (DEG)	270 (DEG)	270 (DEG)
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72		
1.0 -7.770 -8.761 -8.806 -9.303 -9.344 -9.381			1.0 -8.561 -9.381 -9.075 -9.238 -9.281			1.0 -11.475 -14.842 -16.475 -18.825 -18.590 -18.237			1.0 -8.561 -9.381 -9.075 -9.238 -9.281		
5.0 -4.715 -4.888 -4.915 -6.516 -6.721 -6.903			5.0 -4.855 -4.821 -5.375 -6.191 -6.403 -6.403			5.0 -9.299 -12.673 -13.852 -14.672 -14.359 -14.390			5.0 -4.855 -4.821 -5.375 -6.191 -6.403 -6.403		
10.0 -4.199 -4.307 -4.159 -4.620 -4.695 -4.791			10.0 -4.379 -4.351 -4.487 -4.632 -4.657 -4.638			10.0 -8.319 -9.985 -12.250 -12.469 -12.156 -12.980			10.0 -4.379 -4.351 -4.487 -4.632 -4.657 -4.638		
25.0 -2.650 -2.565 -2.191 -2.605 -2.773 -3.167			25.0 -2.950 -2.944 -2.612 -3.027 -2.967 -2.856			25.0 -5.382 -6.780 -6.558 -8.590 -8.546 -9.321			25.0 -2.950 -2.944 -2.612 -3.027 -2.967 -2.856		
50.0 -0.069 0.433 1.171 0.801 0.507 -0.461			50.0 -0.370 -0.398 -0.022 -0.351 -0.152 0.151			50.0 -2.198 -2.974 -4.185 -4.812 -4.946 -5.489			50.0 -0.370 -0.398 -0.022 -0.351 -0.152 0.151		
75.0 3.118 4.150 4.699 4.375 4.274 3.558			75.0 2.565 2.978 3.382 3.853 3.877 4.051			75.0 1.950 0.179 -0.353 -3.406 -1.114 -1.424			75.0 2.565 2.978 3.382 3.853 3.877 4.051		
90.0 5.159 8.339 9.100 9.086 8.783 8.341			90.0 4.589 6.089 7.986 7.931 7.686			90.0 6.844 5.450 6.625 5.450 4.192 6.056			90.0 4.589 6.089 7.986 7.931 7.686		
95.0 7.893 10.386 12.021 12.438 11.604 11.750			95.0 6.942 8.402 8.629 9.736 9.729 9.192			95.0 9.047 8.975 9.563 8.975 8.094 9.972			95.0 6.942 8.402 8.629 9.736 9.729 9.192		
99.0 9.720 14.441 17.950 17.770 16.925 17.213			99.0 12.410 12.350 14.017 15.683 14.205 14.263			99.0 13.238 16.475 13.825 13.590 17.850 16.475			99.0 12.410 12.350 14.017 15.683 14.205 14.263		
NO. OF OBS. 223. 223. 223. 223. 223. 223.			NO. OF OBS. 259. 259. 259. 259. 259. 259.			NO. OF OBS. 141. 141. 141. 141. 141. 141.			NO. OF OBS. 259. 259. 259. 259. 259. 259.		



TABLE Va (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT LEVELS	12	24	36	48	72	PERCENT LEVELS	12	24	36	48	72
1.0	-19.025	-19.350	-23.050	-24.350	-24.512	-24.721	1.0	-13.787	-14.515	-15.150	-15.150
5.0	-15.125	-16.750	-19.208	-21.750	-22.562	-23.607	5.0	-9.798	-12.575	-13.625	-13.717
10.0	-10.250	-14.625	-17.583	-19.550	-20.125	-22.214	10.0	-8.643	-10.150	-12.281	-12.100
25.0	-7.946	-12.187	-13.942	-16.625	-18.309	-18.942	25.0	-5.179	-7.904	-8.750	-8.578
50.0	-4.375	-7.500	-10.192	-12.500	-15.441	-15.192	50.0	-2.602	-4.224	-4.405	-5.473
75.0	-0.312	-1.250	-4.792	-7.679	-8.125	-10.795	75.0	-0.128	-0.043	1.307	-0.850
90.0	3.643	4.100	0.125	-1.500	-2.900	-6.583	90.0	3.912	5.150	4.614	3.962
95.0	5.125	6.750	2.563	2.625	-0.950	-4.875	95.0	5.958	7.575	8.938	10.150
99.0	9.025	9.350	4.512	8.050	8.050	-0.975	99.0	9.192	9.515	15.150	14.030
NO. OF OBS.	39.	39.	39.	39.	39.	39.	NO. OF OBS.	97.	97.	97.	97.

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT LEVELS	12	24	36	48	72	PERCENT LEVELS	12	24	36	48	72
1.0	-8.986	-8.817	-9.253	-9.355	-9.324	-9.165	1.0	-7.992	-8.905	-9.073	-9.426
5.0	-4.933	-4.927	-6.263	-6.773	-6.619	-5.824	5.0	-4.773	-4.956	-5.365	-7.131
10.0	-4.514	-4.453	-4.605	-4.722	-4.686	-4.525	10.0	-4.320	-4.445	-4.517	-4.862
25.0	-3.074	-3.033	-2.815	-2.870	-2.881	-2.750	25.0	-2.961	-2.913	-2.946	-3.248
50.0	-0.676	-0.667	0.192	0.248	0.156	0.255	50.0	-0.695	-0.360	-0.326	-0.558
75.0	2.550	3.072	3.606	3.762	3.854	3.878	75.0	2.319	2.940	3.140	3.061
90.0	4.680	6.559	6.943	7.316	7.452	7.575	90.0	4.328	4.994	5.875	6.135
95.0	6.837	8.647	8.971	9.184	9.143	9.350	95.0	4.997	7.988	8.027	8.452
99.0	9.562	12.160	12.971	13.686	14.160	13.850	99.0	8.996	11.988	9.748	11.988
NO. OF OBS.	284.	284.	284.	284.	284.	284.	NO. OF OBS.	241.	241.	241.	241.

TABLE Va (cont'd)

FOR MONTH OF		MAY		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		315 TO 360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72
1.0		-9.818	-9.833	-14.000	-14.000	-14.333	-14.600
5.0		-9.091	-9.167	-10.000	-10.000	-11.667	-13.000
10.0		-8.182	-8.333	-9.375	-9.375	-9.667	-11.000
25.0		-5.455	-5.833	-7.500	-7.500	-7.667	-8.077
50.0		-2.857	-3.000	-4.231	-4.167	-4.286	-4.412
75.0		-0.476	-0.500	-0.385	-0.	-0.714	-1.471
90.0		3.333	4.000	4.167	4.286	4.000	1.667
95.0		10.000	6.667	7.500	10.000	10.000	5.000
99.0		14.000	9.333	16.000	14.000	16.000	9.000
NO. OF							
OBS.		40.	40.	40.	40.	40.	40.

TABLE Vb

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May, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72
1.0	-7.325	-7.325	-4.987	-9.236	-8.217	-7.325	1.0	-8.683	-9.436	-9.210	-9.210	-8.025
5.0	-4.619	-4.492	-4.163	-6.179	-4.580	-3.883	5.0	-4.875	-7.179	-6.050	-5.562	-4.610
10.0	-4.011	-3.682	-3.135	-4.075	-3.625	-2.100	10.0	-4.355	-4.845	-4.442	-4.187	-3.820
25.0	-2.187	-1.250	-0.048	-0.062	-0.759	1.354	25.0	-2.796	-2.802	-2.163	-1.719	-1.450
50.0	0.987	2.643	2.880	3.786	3.516	5.076	50.0	-0.197	0.729	1.635	1.983	2.500
75.0	4.507	6.830	6.813	7.607	8.920	9.129	75.0	3.042	4.844	5.563	5.938	6.908
90.0	8.417	9.696	11.269	5.900	14.036	15.375	90.0	5.083	8.265	8.525	11.167	10.100
95.0	9.903	12.607	13.327	13.875	17.650	26.625	95.0	8.375	9.426	9.513	13.361	12.893
99.0	14.913	17.325	14.973	18.663	24.825	34.883	99.0	13.025	16.050	21.050	16.050	26.050
NO. OF OBS.	107.	107.	107.	107.	107.	107.	NO. OF OBS.	79.	79.	79.	79.	79.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72
1.0	-17.150	-14.430	-14.525	-14.762	-14.593	-14.430	1.0	-14.325	-14.325	-18.650	-14.550	-14.662
5.0	-11.917	-12.150	-12.625	-13.812	-12.964	-12.150	5.0	-11.625	-11.625	-14.562	-12.750	-13.312
10.0	-9.393	-9.825	-10.250	-12.625	-10.929	-9.865	10.0	-9.500	-9.708	-12.875	-10.500	-11.625
25.0	-6.339	-7.687	-8.472	-9.196	-8.187	-8.221	25.0	-6.607	-8.021	-9.028	-8.558	-8.625
50.0	-2.375	-3.971	-5.833	-4.519	-4.659	-5.481	50.0	-3.500	-5.208	-5.278	-5.962	-5.250
75.0	2.375	0.536	-2.132	-1.779	-1.420	-0.481	75.0	-1.250	-1.528	-0.536	-0.750	2.250
90.0	7.063	6.643	2.167	-0.135	2.300	3.318	90.0	0.500	3.250	2.750	4.125	8.250
95.0	8.844	8.679	7.875	2.158	5.375	4.614	95.0	2.750	8.250	3.875	6.625	13.250
99.0	12.150	12.150	13.575	4.430	12.150	8.575	99.0	4.550	18.650	4.775	9.325	18.650
NO. OF OBS.	57.	57.	57.	57.	57.	57.	NO. OF OBS.	27.	27.	27.	27.	27.

TABLE Vb (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.575	-9.287	-9.050	-7.150	-8.575	1.0	-8.987	-9.325	-9.325	-9.421	-8.987
5.0	-4.871	-6.437	-5.250	-4.580	-4.776	5.0	-4.993	-6.625	-6.625	-7.107	-4.992
10.0	-4.439	-4.646	-4.437	-3.932	-4.816	10.0	-4.397	-4.750	-4.650	-4.833	-4.359
25.0	-3.144	-2.865	-2.656	-1.989	-1.776	25.0	-2.610	-3.304	-2.625	-2.992	-2.461
50.0	-0.985	0.125	0.357	1.250	1.324	50.0	0.403	-0.893	0.682	0.100	0.900
75.0	2.768	3.688	3.750	4.489	5.673	75.0	3.669	2.898	3.750	4.150	5.313
90.0	6.438	8.300	7.357	6.150	8.962	90.0	8.950	7.071	7.167	10.750	12.167
95.0	8.219	11.438	9.393	9.575	13.583	95.0	8.975	9.964	9.417	14.125	14.417
99.0	9.644	14.288	12.150	27.150	18.575	99.0	12.975	17.975	20.950	30.950	20.950
NO. OF OBS.	57.	57.	57.	57.	57.	NO. OF OBS.	81.	81.	81.	81.	81.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-14.450	-14.450	-9.890	-14.725	-9.862	1.0	-9.875	-9.900	-14.500	-14.833	-14.500
5.0	-12.250	-12.250	-9.450	-13.625	-9.312	5.0	-9.375	-9.500	-12.500	-14.167	-12.500
10.0	-4.917	-9.833	-8.900	-12.250	-8.625	10.0	-8.750	-9.000	-10.000	-13.333	-10.000
25.0	-3.542	-7.083	-7.250	-9.250	-6.562	25.0	-6.875	-7.500	-8.929	-8.500	-10.833
50.0	-1.250	-3.125	-4.500	-6.500	-3.750	50.0	-3.750	-5.000	-7.143	-6.000	-6.667
75.0	2.083	0.417	-1.750	-1.875	-1.458	75.0	-0.625	-0.833	-5.357	-1.250	-3.750
90.0	4.833	3.167	-0.100	4.500	-0.083	90.0	7.500	2.500	5.000	10.000	15.000
95.0	7.250	4.083	7.250	7.250	12.250	95.0	8.750	3.750	7.500	12.500	17.500
99.0	9.450	4.817	9.450	9.450	14.450	99.0	9.750	4.750	9.500	14.500	19.500
NO. OF OBS.	11.	11.	11.	11.	11.	NO. OF OBS.	10.	10.	10.	10.	10.

TABLE Vb (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.050	-8.886	-9.291	-9.133	-8.886	1.0	-24.050	-24.050	-24.050	-24.050	-19.050
5.0	-4.689	-4.933	-6.455	-5.667	-4.925	5.0	-20.250	-20.250	-20.250	-20.250	-15.250
10.0	-4.049	-4.283	-4.596	-4.377	-4.189	10.0	-10.500	-17.750	-19.250	-18.500	-14.357
25.0	-2.131	-2.333	-2.544	-2.170	-1.981	25.0	-6.562	-9.375	-12.083	-16.875	-12.321
50.0	0.956	0.902	0.980	1.429	1.000	50.0	-2.083	-3.417	-3.750	-8.125	-7.500
75.0	3.824	4.098	4.804	4.911	4.545	75.0	1.875	12.083	7.813	3.417	0.313
90.0	6.947	8.875	9.115	5.667	11.700	90.0	4.250	16.833	15.250	10.250	3.875
95.0	9.000	12.333	12.667	16.500	16.200	95.0	10.250	18.417	17.625	12.625	5.250
99.0	13.050	18.600	23.600	26.100	23.050	99.0	14.050	19.683	19.525	14.525	9.050
NO. OF OBS.	156.	156.	156.	156.	156.	NO. OF OBS.	19.	19.	19.	19.	19.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-12.575	-14.030	-15.150	-15.150	-18.383	1.0	-24.400	-24.850	-29.400	-29.400	-29.400
5.0	-9.109	-10.150	-13.396	-13.717	-14.528	5.0	-22.000	-24.250	-27.000	-27.000	-27.000
10.0	-7.594	-8.763	-11.375	-12.100	-11.833	10.0	-19.667	-23.500	-24.833	-24.667	-14.500
25.0	-4.219	-4.960	-7.750	-8.125	-7.443	25.0	-16.667	-21.250	-23.333	-21.667	-10.000
50.0	-1.187	-1.048	-1.719	-2.083	-2.187	50.0	-11.667	-18.000	-20.833	-17.500	-8.125
75.0	3.512	5.859	6.705	4.408	6.528	75.0	-2.500	-15.000	-16.667	-12.500	-6.250
90.0	8.458	12.167	14.056	15.188	14.227	90.0	-0.250	-6.000	-1.000	4.000	-0.500
95.0	11.438	17.625	17.625	18.219	18.938	95.0	2.000	2.000	7.000	12.000	7.000
99.0	20.150	25.150	22.575	30.150	35.150	99.0	4.400	4.400	9.400	14.400	9.400
NO. OF OBS.	97.	97.	97.	97.	97.	NO. OF OBS.	12.	12.	12.	12.	12.

TABLE Vb (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	24	36	48	60	72	PERCENT	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60
1.0	-8.110	-9.325	-9.212	-9.370	-8.650	1.0	-18.300	-20.800	-20.800	-24.150	-24.440
5.0	-4.829	-6.625	-6.062	-6.850	-4.701	5.0	-12.750	-16.000	-17.333	-19.227	-20.375
10.0	-3.842	-4.467	-4.281	-4.500	-3.549	10.0	-9.769	-13.211	-14.548	-17.316	-18.500
25.0	-1.479	-1.386	-1.328	-0.865	-0.091	25.0	-6.538	-8.488	-10.484	-12.321	-13.971
50.0	1.916	2.654	3.194	3.491	3.606	50.0	-1.512	-3.235	-5.244	-6.463	-7.656
75.0	4.984	6.782	8.016	9.381	8.431	75.0	4.877	3.448	2.353	3.789	-0.536
90.0	9.014	9.798	12.658	13.085	13.917	90.0	9.143	10.091	10.250	9.600	11.000
95.0	11.159	13.146	15.393	15.458	16.964	95.0	12.571	13.909	17.300	14.750	17.371
99.0	14.595	20.550	22.775	27.775	33.517	99.0	19.150	19.320	25.800	19.514	28.300
NO. OF	189.	189.	189.	189.	189.	NO. OF	189.	189.	189.	189.	189.
OBS.	343.	343.	343.	343.	343.	OBS.	65.	65.	65.	65.	65.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	24	36	48	60	72	PERCENT	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60
1.0	-13.650	-13.657	-14.514	-14.753	-14.935	1.0	-36.750	-36.750	-31.750	-33.375	-29.639
5.0	-9.394	-9.829	-11.770	-12.388	-12.656	5.0	-19.393	-22.917	-24.861	-27.917	-28.194
10.0	-7.941	-8.468	-9.390	-9.786	-10.258	10.0	-16.071	-18.500	-23.056	-24.167	-26.369
25.0	-4.284	-4.687	-5.607	-6.445	-7.205	25.0	-10.875	-13.355	-19.365	-19.250	-21.705
50.0	-0.620	-1.230	-1.046	-1.472	-1.941	50.0	-5.167	-6.971	-10.312	-13.409	-14.583
75.0	4.048	5.027	5.492	6.738	6.061	75.0	2.212	-3.472	-2.361	-6.875	-6.161
90.0	8.402	11.295	13.391	13.742	11.940	90.0	7.083	2.500	6.250	1.875	-1.750
95.0	10.386	15.266	17.141	18.688	15.771	95.0	9.792	4.821	8.958	6.875	-0.125
99.0	17.975	19.553	23.808	25.950	24.106	99.0	13.917	16.750	26.750	16.750	28.375
NO. OF	343.	343.	343.	343.	343.	NO. OF	65.	65.	65.	65.	65.
OBS.	343.	343.	343.	343.	343.	OBS.	65.	65.	65.	65.	65.

TABLE Vb (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 40 TO 50 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMETER 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMETER 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	24	36	48	72		LEVELS	12	24	36	48	72
1.0	-24.250	-34.250	-34.625	-39.250		1.0	-10.875	-13.344	-13.795	-14.641	-15.583
5.0	-21.250	-31.250	-33.125	-36.250		5.0	-8.808	-9.570	-9.812	-12.337	-11.979
10.0	-19.167	-27.500	-31.250	-33.750		10.0	-7.267	-8.484	-8.708	-9.773	-9.531
25.0	-15.417	-16.250	-21.250	-26.750		25.0	-3.967	-5.225	-5.396	-6.159	-6.345
50.0	-11.500	-7.500	-17.083	-20.833		50.0	-0.587	-0.767	-1.006	-1.853	-1.486
75.0	-2.917	1.250	0.625	-3.750		75.0	4.415	5.190	4.880	4.137	4.421
90.0	2.500	12.500	7.500	-11.250		90.0	9.167	9.511	10.658	5.392	9.653
95.0	6.250	16.250	16.250	6.250		95.0	11.985	13.365	14.145	13.125	13.839
99.0	9.250	19.250	19.250	9.250		99.0	15.583	18.969	21.688	25.875	23.375
NO. OF						NO. OF					
OBS.	15.	15.	15.	15.		OBS.	265.	265.	265.	265.	265.

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTIMETER 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTIMETER 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	24	36	48	72		LEVELS	12	24	36	48	72
1.0	-9.269	-9.367	-9.136	-8.944		1.0	-20.150	-14.677	-17.575	-20.150	-19.596
5.0	-6.346	-6.933	-5.682	-4.958		5.0	-13.396	-13.383	-14.406	-17.594	-17.979
10.0	-4.552	-4.710	-4.298	-4.464		10.0	-11.375	-11.767	-13.396	-14.848	-15.958
25.0	-2.425	-2.645	-1.798	-1.920		25.0	-7.837	-8.508	-10.365	-11.685	-12.550
50.0	1.042	1.146	3.068	2.955		50.0	-3.561	-4.569	-5.500	-6.413	-7.870
75.0	4.340	6.250	8.050	8.278		75.0	0.288	-0.388	-1.116	-1.940	-1.635
90.0	8.065	9.643	12.368	14.063		90.0	6.045	4.731	4.150	1.850	3.679
95.0	9.597	12.955	14.868	17.955		95.0	8.250	7.964	6.969	4.075	6.438
99.0	13.643	18.100	22.750	23.875		99.0	10.150	20.150	9.394	8.383	12.575
NO. OF						NO. OF					
OBS.	190.	190.	190.	190.		OBS.	97.	97.	97.	97.	97.

TABLE Vb (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 30 TO 45 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.525	-19.525	-24.050	-24.050	-29.050	1.0	-13.558	-14.133	-14.696	-14.279	-14.772
5.0	-17.625	-17.625	-20.250	-20.250	-25.250	5.0	-9.699	-10.675	-11.812	-11.396	-12.609
10.0	-15.250	-15.250	-18.500	-19.100	-24.100	10.0	-8.716	-9.223	-9.602	-9.384	-9.970
25.0	-10.417	-10.417	-14.062	-16.250	-21.250	25.0	-5.767	-6.463	-7.199	-6.366	-7.375
50.0	-4.643	-6.786	-8.929	-9.167	-14.167	50.0	-2.316	-2.862	-3.402	-2.649	-3.545
75.0	-1.250	-2.750	-5.536	-2.750	-4.583	75.0	1.588	0.521	0.337	1.336	-0.317
90.0	2.750	0.500	1.833	0.500	0.500	90.0	5.206	4.125	5.567	6.469	6.523
95.0	5.250	10.250	3.417	10.250	2.625	95.0	7.750	6.068	8.450	9.172	8.489
99.0	9.050	14.050	4.683	14.050	4.525	99.0	9.785	9.214	13.783	13.558	11.350
NO. OF						NO. OF					
OBS.	19.	19.	19.	19.	19.	OBS.	173.	173.	173.	173.	173.

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.836	-8.836	-9.259	-9.259	-9.094	1.0	-17.550	-18.775	-19.592	-22.550	-23.775
5.0	-4.918	-4.901	-6.295	-6.295	-4.983	5.0	-13.550	-14.827	-17.958	-19.094	-19.625
10.0	-4.336	-4.198	-4.424	-4.354	-4.255	10.0	-11.100	-13.885	-15.917	-17.562	-17.583
25.0	-2.589	-2.091	-1.766	-1.372	-1.192	25.0	-8.264	-11.058	-12.396	-13.375	-12.639
50.0	0.363	1.331	2.149	2.837	2.990	50.0	-4.881	-7.738	-8.432	-7.708	-7.115
75.0	3.649	4.817	6.250	7.340	7.736	75.0	-1.964	-4.625	-5.536	-0.893	-2.404
90.0	6.925	8.397	9.955	11.423	12.406	90.0	-0.214	-0.950	-0.750	6.375	1.833
95.0	8.963	9.802	13.568	14.558	14.933	95.0	3.875	2.750	3.875	9.438	5.917
99.0	15.925	16.850	19.213	19.475	30.925	99.0	12.550	12.550	8.775	13.775	9.183
NO. OF						NO. OF					
OBS.	163.	163.	163.	163.	163.	OBS.	49.	49.	49.	49.	49.



TABLE Vc

May, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-7.950	-8.975	-8.975	-9.487	-7.950	1.0	-14.867	-14.866	-14.867	-24.200	-24.200	-19.200
5.0	-4.475	-4.950	-4.958	-7.437	-4.250	5.0	-14.333	-14.429	-14.333	-21.000	-21.000	-16.000
10.0	-3.450	-2.900	-3.250	-4.929	-2.786	10.0	-13.667	-13.857	-13.667	-18.500	-19.000	-14.250
25.0	-0.375	1.161	0.938	-0.536	1.675	25.0	-11.667	-12.143	-11.667	-13.750	-15.000	-11.250
50.0	2.794	4.821	5.227	7.292	6.458	50.0	-7.500	-8.750	-5.000	-8.333	-10.000	-5.000
75.0	6.250	8.250	9.886	11.875	15.469	75.0	-3.333	-3.333	-1.000	-3.750	-1.000	-1.000
90.0	9.045	11.125	16.583	14.950	19.312	90.0	-1.333	12.000	12.000	3.000	-0.750	3.500
95.0	9.977	13.688	18.292	17.438	24.917	95.0	-0.667	16.000	16.000	4.000	16.000	16.000
99.0	13.975	17.950	19.658	19.487	32.950	99.0	-0.133	19.200	19.200	4.800	19.200	19.200
NO. OF OBS.	41.	41.	41.	41.	41.	NO. OF OBS.	16.	16.	16.	16.	16.	16.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-14.050	-17.150	-17.150	-17.150	-13.575	1.0	-9.375	-9.687	-8.750	-8.750	-9.375	-8.750
5.0	-10.250	-9.717	-13.972	-12.687	-9.575	5.0	-6.875	-6.437	-4.844	-4.750	-6.875	-3.750
10.0	-8.650	-8.767	-12.389	-9.731	-8.150	10.0	-4.687	-6.875	-4.062	-3.500	-4.375	0.500
25.0	-4.687	-5.917	-8.068	-6.442	-4.250	25.0	-2.344	-2.750	-1.719	0.139	0.417	4.250
50.0	-1.125	-1.406	-2.500	-1.250	0.625	50.0	1.563	1.346	2.500	3.611	6.591	7.750
75.0	3.482	3.250	4.219	4.886	6.339	75.0	5.625	3.750	6.964	7.679	9.432	11.458
90.0	8.583	7.750	8.650	8.458	9.393	90.0	8.750	7.500	9.643	12.500	13.125	14.583
95.0	11.436	10.250	10.250	9.646	11.917	95.0	9.792	16.875	11.875	16.875	14.688	18.750
99.0	14.288	14.050	14.050	17.150	22.150	99.0	18.750	19.375	14.375	19.375	23.750	23.750
NO. OF OBS.	57.	57.	57.	57.	57.	NO. OF OBS.	25.	25.	25.	25.	25.	25.

TABLE Vc (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.810	-14.683	-19.525	-19.683	-14.683	-19.525	1.0	-9.375	-9.375	-8.750	-9.375	-9.375	-4.821	-9.583
5.0	-9.050	-13.417	-17.625	-18.417	-13.417	-17.625	5.0	-6.875	-4.687	-4.687	-6.875	-6.875	-4.107	-7.917
10.0	-8.100	-11.833	-15.250	-16.833	-11.833	-15.250	10.0	-4.643	-3.125	-3.125	-4.500	-4.375	-3.214	-5.833
25.0	-5.250	-7.083	-12.250	-10.625	-8.542	-10.417	25.0	-1.964	0.625	0.625	-0.750	0.156	-0.536	-0.937
50.0	-2.500	-2.500	-4.643	-3.214	-4.583	2.083	50.0	2.188	3.750	3.750	4.583	4.063	3.929	4.583
75.0	0.313	3.125	-1.250	3.313	-0.625	8.125	75.0	6.458	10.536	12.188	13.938	11.875	12.917	
90.0	3.875	7.625	2.750	3.875	12.750	25.250	90.0	9.583	13.214	10.750	15.833	18.125	23.750	
95.0	5.250	8.812	5.250	5.250	20.250	27.625	95.0	11.875	14.107	21.875	17.917	19.688	28.750	
99.0	9.050	9.762	9.050	9.050	24.050	29.525	99.0	14.375	14.821	24.375	19.583	28.750	33.750	
NO. OF							NO. OF							
OBS.	19.	19.	19.	19.	19.	19.	OBS.	25.	25.	25.	25.	25.	25.	25.

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.908	-4.890	-4.725	-4.725	-4.890	-9.450	1.0	-13.800	-13.800	-13.800	-14.400	-14.400	-14.520	-14.400
5.0	-4.542	-4.450	-3.625	-3.625	-4.450	-7.250	5.0	-9.778	-9.833	-9.833	-12.000	-12.000	-12.600	-12.000
10.0	-4.083	-3.900	-2.250	-2.250	-3.900	-4.750	10.0	-8.444	-8.833	-8.833	-9.600	-9.600	-10.200	-9.667
25.0	-2.708	-2.250	1.250	0.750	-2.250	-0.625	25.0	-4.687	-5.833	-5.833	-6.000	-6.000	-6.111	-6.667
50.0	-0.417	1.250	6.250	3.500	2.500	6.875	50.0	-0.937	-1.154	-1.154	-0.	-1.154	-0.833	-0.
75.0	2.250	7.083	12.083	11.250	11.250	11.250	75.0	3.482	6.000	6.000	8.371	11.667	15.000	15.000
90.0	3.900	9.833	14.833	19.500	24.500	22.250	90.0	7.887	20.250	18.687	22.750	31.000	23.500	
95.0	4.450	12.250	17.250	22.250	27.250	23.625	95.0	9.887	23.250	26.500	26.500	37.000	28.000	
99.0	4.890	14.450	19.450	24.450	29.450	24.725	99.0	17.800	27.600	32.600	32.600	39.400	33.800	
NO. OF							NO. OF							
OBS.	11.	11.	11.	11.	11.	11.	OBS.	48.	48.	48.	48.	48.	48.	48.

TABLE Vc (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72
1.0	-9.820	-16.200	-19.400	-19.550	-19.100	-18.200	1.0	-7.100	-7.100	-4.637	-8.550	-7.100
5.0	-9.100	-14.000	-17.000	-17.750	-15.500	-14.333	5.0	-4.136	-4.136	-3.187	-4.437	-3.944
10.0	-8.200	-11.750	-14.400	-15.500	-13.400	-12.833	10.0	-2.818	-2.818	-1.375	-2.625	-2.333
25.0	-5.500	-7.778	-9.286	-8.889	-8.750	-8.750	25.0	0.568	1.042	1.447	2.031	1.731
50.0	-0.556	-1.667	-2.857	-3.333	-0.	-2.500	50.0	3.864	6.563	5.833	7.273	8.182
75.0	10.000	7.500	8.333	9.125	6.667	5.000	75.0	7.794	12.188	13.958	16.071	18.500
90.0	13.857	17.333	15.500	22.000	13.500	16.000	90.0	11.200	19.200	21.200	26.000	30.333
95.0	15.500	20.500	17.750	28.000	18.000	21.000	95.0	14.100	23.500	24.100	28.417	35.167
99.0	19.100	24.100	19.550	33.200	23.200	28.200	99.0	18.550	33.550	33.550	37.100	39.033
NO. OF	36.	36.	36.	36.	36.	NO. OF	58.	58.	58.	58.	58.	58.
OBS.	36.	36.	36.	36.	36.	OBS.	58.	58.	58.	58.	58.	58.

FOR MONTH OF MAY			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72
1.0	-24.625	-29.250	-29.750	-29.250	-29.250	-24.250	1.0	-9.931	-13.307	-13.815	-14.088	-14.429
5.0	-23.125	-26.250	-28.750	-26.250	-26.250	-21.250	5.0	-8.176	-9.192	-9.681	-10.442	-10.479
10.0	-21.250	-22.500	-27.500	-24.375	-24.167	-18.750	10.0	-5.981	-7.217	-7.638	-8.012	-8.274
25.0	-9.464	-14.375	-21.250	-21.562	-20.417	-8.750	25.0	-2.956	-3.262	-3.254	-3.861	-3.444
50.0	-6.786	-11.250	-15.625	-15.833	-12.500	-3.125	50.0	1.076	1.862	2.829	2.988	3.542
75.0	-3.437	-7.187	1.250	6.250	5.417	3.125	75.0	5.306	8.099	9.453	11.573	12.216
90.0	-0.625	2.500	11.250	17.500	9.167	21.250	90.0	9.256	13.761	14.734	19.469	22.208
95.0	1.250	6.250	13.125	21.250	21.250	23.125	95.0	11.717	17.795	21.536	25.107	27.575
99.0	4.250	9.250	14.625	24.250	24.250	24.625	99.0	14.877	23.858	29.630	34.383	37.630
NO. OF	15.	15.	15.	15.	15.	NO. OF	237.	237.	237.	237.	237.	237.
OBS.	15.	15.	15.	15.	15.	OBS.	237.	237.	237.	237.	237.	237.

TABLE Vc (cont'd)

FOR MONTH OF MAY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 40 TO 50 (M/SEC)						
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-18.372	-19.123	-18.779	-19.464	-22.070	-24.336		1.0	-24.900	-33.233	-33.233	-34.937	-37.350	-34.970
5.0	-13.655	-14.470	-14.669	-16.208	-17.162	-18.716		5.0	-19.187	-28.083	-28.955	-31.929	-32.937	-32.850
10.0	-10.167	-11.540	-12.837	-13.439	-14.039	-15.386		10.0	-15.875	-23.667	-26.545	-28.818	-29.727	-30.200
25.0	-4.491	-6.301	-7.957	-8.199	-8.750	-9.892		25.0	-7.639	-12.812	-17.500	-21.250	-23.167	-25.156
50.0	0.038	-0.121	0.163	-1.940	-2.009	-3.167		50.0	-2.167	-3.871	-5.455	-11.071	-13.750	-15.417
75.0	5.731	7.264	9.228	13.551	10.257	9.583		75.0	3.214	0.833	-0.096	-2.500	-4.722	-5.893
90.0	9.877	15.184	16.523	16.425	17.786	18.823		90.0	8.231	7.833	7.750	5.400	6.167	4.250
95.0	13.513	19.039	19.852	23.212	22.432	24.083		95.0	11.167	11.929	12.125	11.167	11.167	8.357
99.0	20.175	26.783	30.350	31.783	29.336	33.838		99.0	19.850	14.957	24.700	18.233	24.700	29.700
NO. OF								NO. OF						
OBS.	293.	293.	293.	293.	293.	293.		OBS.	106.	106.	106.	106.	106.	106.

FOR MONTH OF MAY				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 50 TO 60 (M/SEC)						
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-20.050	-25.050	-25.050	-29.510	-29.623	-31.700		1.0	-34.283	-38.925	-39.283	-37.850	-39.785	-39.857
5.0	-15.811	-19.719	-21.962	-23.550	-26.577	-27.700		5.0	-31.417	-34.250	-36.417	-34.281	-38.925	-39.283
10.0	-12.905	-16.625	-18.857	-22.067	-23.550	-24.625		10.0	-27.833	-27.833	-33.700	-32.937	-37.850	-38.567
25.0	-8.098	-10.100	-12.955	-15.300	-17.019	-18.558		25.0	-14.062	-18.542	-25.417	-28.250	-34.250	-36.417
50.0	-1.818	-2.927	-4.828	-7.429	-10.000	-11.125		50.0	-3.958	-8.056	-9.062	-15.833	-24.375	-28.929
75.0	4.167	4.722	4.886	2.167	1.750	-0.227		75.0	1.042	0.313	-0.750	-4.583	-8.750	-9.750
90.0	9.440	9.862	11.909	11.778	13.923	12.385		90.0	6.700	7.700	7.125	9.250	-0.500	-0.750
95.0	12.731	14.136	16.938	17.278	20.083	18.875		95.0	8.850	9.850	9.813	14.625	4.625	2.313
99.0	17.525	23.020	23.775	23.020	28.367	25.100		99.0	17.850	27.850	17.850	22.850	17.850	4.463
NO. OF								NO. OF						
OBS.	198.	198.	198.	198.	198.	198.		OBS.	43.	43.	43.	43.	43.	43.

TABLE Vc (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED U TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.000	-8.667	-6.000	-8.667	-9.333	-8.000	1.0	-16.500	-19.100	-19.100	-20.333
5.0	-4.500	-4.667	-4.286	-4.722	-4.231	5.0	-11.429	-14.286	-14.444	-16.562	-17.292
10.0	-3.500	-3.437	-3.333	-3.611	-4.000	10.0	-9.057	-10.952	-11.852	-13.333	-14.651
25.0	-0.500	0.227	-0.476	-0.278	1.818	25.0	-5.094	-6.545	-7.143	-8.065	-9.848
50.0	3.600	4.773	5.263	5.313	6.190	50.0	-1.290	-1.419	-1.806	-2.808	-4.375
75.0	7.955	11.071	10.714	12.500	13.889	75.0	4.423	4.623	4.000	3.152	2.614
90.0	11.667	15.714	15.000	20.000	21.875	90.0	8.830	10.000	10.313	5.464	10.385
95.0	13.889	18.371	18.333	23.333	24.375	95.0	11.154	13.889	14.688	15.000	16.667
99.0	21.000	23.000	26.000	28.000	31.000	99.0	17.000	19.000	22.000	25.333	27.000
NO. OF OBS.	80.	80.	80.	80.	80.	NO. OF OBS.	280.	280.	280.	280.	280.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-12.400	-14.300	-14.950	-13.800	-14.569	1.0	-20.000	-27.500	-28.333	-28.750	-32.500
5.0	-8.800	-9.300	-9.927	-9.740	-9.935	5.0	-16.000	-19.643	-22.500	-24.000	-28.125
10.0	-6.850	-7.350	-8.024	-8.180	-8.239	10.0	-12.143	-17.857	-18.636	-19.722	-25.000
25.0	-2.895	-3.427	-3.625	-4.085	-3.819	25.0	-7.692	-11.818	-13.409	-15.556	-17.353
50.0	1.753	1.197	1.563	1.058	1.597	50.0	-2.885	-5.227	-7.500	-9.167	-10.278
75.0	6.119	7.105	6.333	6.700	6.152	75.0	3.125	2.000	-0.312	-2.059	-2.083
90.0	9.612	12.379	14.362	17.167	18.545	90.0	6.750	10.000	7.500	7.143	5.000
95.0	13.059	15.182	19.750	22.250	24.429	95.0	11.667	13.371	12.000	11.250	10.000
99.0	19.900	24.700	27.200	29.200	33.233	99.0	15.000	18.333	17.500	25.000	25.000
NO. OF OBS.	312.	312.	312.	312.	312.	NO. OF OBS.	100.	100.	100.	100.	100.

TABLE Vc (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 40 TO 50 (M/SEC)					FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)					ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS					WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS				
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72			
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72			
1.0	-22.800	-24.633	-33.900	-32.800	-33.900	-37.800	1.0	-8.600	-9.300	-9.300	-8.600	-4.785	-4.533		
5.0	-17.000	-23.167	-29.500	-28.500	-29.750	-33.000	5.0	-4.789	-6.500	-6.500	-4.600	-3.923	-2.667		
10.0	-12.667	-21.333	-24.333	-25.750	-27.000	-29.778	10.0	-4.053	-4.556	-4.200	-3.200	-2.846	-0.333		
25.0	-6.429	-15.000	-18.750	-20.833	-26.111		25.0	-1.842	-2.222	0.	0.769	0.417	5.000		
50.0	-2.500	-6.250	-8.750	-12.222	-15.455	-17.778	50.0	1.667	2.143	3.500	6.154	6.364	9.118		
75.0	1.250	1.111	-2.727	-3.750	-6.182	-8.750	75.0	5.000	7.500	9.000	11.667	13.333	15.625		
90.0	5.600	4.778	1.000	3.000	-5.182	-4.000	90.0	10.400	13.000	13.556	15.400	18.857	22.333		
95.0	7.800	8.000	4.667	8.000	-2.000	-0.333	95.0	13.200	17.000	16.000	18.200	25.500	28.000		
99.0	9.560	12.800	12.800	12.800	7.800	12.800	99.0	17.200	22.200	27.200	37.200	33.600			
NO. OF							NO. OF								
OBS.	44.	44.	44.	44.	44.		OBS.	56.	56.	56.	56.	56.	56.		

FOR MONTH OF MAY			INITIAL WIND SPEED 50 TO 60 (M/SEC)					FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)					ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS					WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS				
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72			
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72			
1.0	-29.450	-39.450	-39.450	-39.450	-39.725	-39.450	1.0	-12.912	-13.883	-13.956	-14.521	-14.165			
5.0	-27.250	-37.250	-37.250	-37.250	-38.625	-37.250	5.0	-9.379	-9.320	-9.935	-9.767	-10.825			
10.0	-19.750	-24.500	-34.500	-34.750	-37.250	-34.833	10.0	-8.186	-8.016	-8.389	-8.328	-8.604			
25.0	-15.825	-18.125	-23.125	-30.625	-31.250	-32.083	25.0	-4.754	-4.436	-4.338	-4.311	-4.223	-4.006		
50.0	-6.250	-12.500	-17.500	-16.250	-21.250	-24.167	50.0	-1.027	-0.343	-0.245	-0.051	1.544	1.750		
75.0	0.625	-3.750	1.250	-8.750	-12.187	-19.375	75.0	3.980	6.703	6.473	8.050	7.466	8.589		
90.0	4.750	4.500	7.250	2.250	-10.125	-15.250	90.0	8.761	11.500	12.409	13.825	12.864	14.289		
95.0	7.250	7.250	8.825	3.825	7.250	-12.750	95.0	11.893	15.464	16.893	17.607	19.583	19.036		
99.0	9.450	9.450	9.725	4.725	9.450	-10.550	99.0	18.883	20.825	26.650	24.183	26.325	31.850		
NO. OF							NO. OF								
OBS.	44.	44.	44.	44.	44.		OBS.	167.	167.	167.	167.	167.	167.		

TABLE Vc (cont'd)

FOR MONTH OF MAY		INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)			
		WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS		12	24	36	48	60	72	84	96
1.0		-18.017	-22.025	-19.008	-19.810	-19.542	-19.339	-19.175	-18.975
5.0		-13.156	-14.703	-15.042	-15.050	-17.712	-16.694	-25.875	-26.750
10.0		-9.839	-12.044	-13.771	-13.659	-15.423	-14.341	-21.750	-23.375
25.0		-6.652	-8.380	-10.032	-9.676	-9.676	-10.284	-16.458	-17.750
50.0		-2.616	-3.526	-5.242	-4.100	-4.196	-4.485	-11.389	-11.071
75.0		1.908	0.536	0.956	1.779	1.488	-0.110	-5.893	-5.781
90.0		7.033	4.786	6.708	5.688	6.192	5.500	3.500	-0.929
95.0		9.017	10.063	9.188	9.406	8.481	8.205	7.250	3.375
99.0		19.050	17.025	14.683	14.763	12.025	14.050	8.350	8.350
NO. OF		119.				119.			
OBS.		119.				119.			
		33.				33.			
		33.				33.			

TABLE Vd

May, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.717	-8.717	-8.556	-8.950	-9.230	1.0	-8.979	-8.570	-9.159	-8.900	-9.319
5.0	-4.887	-4.881	-4.850	-4.972	-6.150	5.0	-4.990	-4.852	-5.794	-4.953	-6.595
10.0	-4.376	-4.341	-4.360	-4.389	-4.465	10.0	-4.500	-4.359	-4.577	-4.439	-4.710
25.0	-2.843	-2.722	-2.892	-2.639	-2.931	25.0	-3.031	-2.879	-3.011	-2.896	-3.073
50.0	-0.288	-0.023	-0.445	0.299	-0.376	50.0	-0.382	-0.414	-0.401	-0.324	-0.344
75.0	2.816	3.045	3.109	3.438	3.198	75.0	2.672	2.729	2.966	2.841	2.948
90.0	4.720	4.888	6.093	6.135	6.278	90.0	4.775	4.697	5.233	4.791	4.972
95.0	6.897	7.363	8.231	8.356	8.417	95.0	7.021	6.833	7.617	7.021	7.446
99.0	9.615	9.673	9.943	11.725	13.363	99.0	9.404	9.557	9.523	9.404	9.489
NO. OF OBS.	231.	231.	231.	231.	231.	NO. OF OBS.	286.	286.	286.	286.	286.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-11.400	-11.400	-16.400	-13.200	-14.400	1.0	-16.450	-13.817	-13.225	-13.225	-14.290
5.0	-9.071	-9.235	-9.381	-9.619	-12.000	5.0	-9.225	-9.725	-9.516	-9.631	-11.450
10.0	-7.786	-8.176	-8.524	-8.762	-9.727	10.0	-7.450	-7.950	-8.406	-8.786	-9.543
25.0	-4.559	-5.000	-5.952	-6.190	-7.273	25.0	-4.388	-4.448	-5.078	-6.250	-7.228
50.0	-1.912	-2.429	-2.667	-3.030	-3.621	50.0	-2.500	-2.384	-2.569	-3.284	-3.611
75.0	1.190	0.313	0.588	-0.303	-0.517	75.0	-0.612	-0.320	-0.104	-0.799	-0.324
90.0	3.762	3.688	3.765	4.400	4.667	90.0	2.227	2.633	2.912	2.227	2.967
95.0	4.619	4.613	4.824	7.000	7.833	95.0	3.841	3.817	3.956	3.841	4.150
99.0	8.200	8.600	8.600	9.400	11.400	99.0	11.450	4.763	4.791	6.450	16.450
NO. OF OBS.	72.	72.	72.	72.	72.	NO. OF OBS.	71.	71.	71.	71.	71.



TABLE Vd (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	24	36	48	72		PERCENT	24	36	48	72	
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.006	-9.117	-9.277	-9.470	-9.277	1.0	-4.848	-4.896	-6.350	-4.886	-6.350
5.0	-5.031	-5.583	-6.386	-7.350	-5.583	5.0	-4.240	-4.479	-4.470	-4.430	-4.398
10.0	-4.410	-4.558	-4.682	-4.933	-4.477	10.0	-3.479	-3.957	-3.740	-3.859	-3.568
25.0	-2.631	-3.029	-3.133	-3.153	-2.670	25.0	-1.198	-2.393	-1.550	-2.148	-1.080
50.0	0.308	-0.481	-0.552	-0.187	0.357	50.0	1.524	0.221	1.280	0.776	2.045
75.0	3.031	2.601	2.841	3.004	3.312	75.0	3.750	2.904	3.506	3.922	4.811
90.0	4.664	4.524	5.031	4.927	4.690	90.0	5.500	4.515	4.841	6.958	8.464
95.0	6.525	6.281	7.516	7.518	6.841	95.0	8.107	5.583	7.350	8.479	9.768
99.0	9.705	12.050	9.503	9.789	9.853	99.0	11.350	11.350	21.350	9.696	13.783
NO. OF	159.	159.	159.	159.	159.	NO. OF	73.	73.	73.	73.	73.
OBS.	159.	159.	159.	159.	159.	OBS.	73.	73.	73.	73.	73.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	24	36	48	72		PERCENT	24	36	48	72	
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.400	-19.400	-14.400	-19.700	-14.800	1.0	-7.950	-7.950	-8.633	-8.975	-8.633
5.0	-17.000	-17.000	-12.000	-18.500	-14.000	5.0	-4.691	-4.625	-4.817	-4.980	-4.810
10.0	-14.000	-9.667	-9.750	-17.000	-13.000	10.0	-4.088	-3.893	-4.133	-4.160	-4.103
25.0	-8.750	-6.667	-7.500	-12.500	-10.000	25.0	-2.279	-1.696	-2.083	-1.700	-1.983
50.0	-5.000	-3.750	-3.333	-6.667	-8.125	50.0	0.735	1.375	1.429	1.875	2.237
75.0	-1.250	-1.875	1.667	-3.000	-5.714	75.0	3.750	3.938	5.147	5.167	4.934
90.0	2.000	-0.750	4.667	-1.200	-5.125	90.0	6.900	6.727	8.765	9.267	8.688
95.0	3.500	-0.375	12.000	-0.600	-3.000	95.0	8.950	8.591	9.971	12.375	9.969
99.0	4.700	-0.075	14.400	-0.120	-0.300	99.0	12.950	10.900	13.975	22.950	13.975
NO. OF	12.	12.	12.	12.	12.	NO. OF	82.	82.	82.	82.	82.
OBS.	12.	12.	12.	12.	12.	OBS.	82.	82.	82.	82.	82.

TABLE Vd (cont'd)

FOR MONTH OF MAY							INITIAL WIND SPEED 10 TO 20 (M/SEC)							FOR MONTH OF MAY							INITIAL WIND SPEED 20 TO 30 (M/SEC)																																																																												
ALTIMETER 16 TO 20 (KM)							INITIAL DIRECTION 180 TO 225 (DEG)							ALTIMETER 16 TO 20 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)																																																																												
WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS							WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS																																																																												
PERCENT							LEVELS							PERCENT							LEVELS																																																																												
1.0							-9.625							-9.250							-14.250							-14.250							1.0							-12.750							-12.000							-13.500							-15.500							-13.200							-17.000																				
5.0							-8.125							-6.250							-11.250							-11.250							-11.250							5.0							-8.950							-8.500							-9.423							-10.625							-9.355							-9.872													
10.0							-6.250							-4.687							-9.375							-7.500							-9.375							-9.500							10.0							-7.083							-6.250							-7.692							-8.519							-7.903							-8.718						
25.0							-3.750							-3.281							-6.562							-4.531							-6.562							-7.250							25.0							-3.786							-3.429							-3.860							-4.286							-4.286							-5.256						
50.0							-1.071							-0.937							-2.500							-2.187							-1.875							-3.125							50.0							-0.571							-0.214							0.104							-0.268							-0.714							-1.091						
75.0							5.313							2.813							2.083							1.250							5.417							3.125							75.0							3.627							4.118							4.792							5.000							4.500							3.750						
90.0							8.125							7.500							6.250							6.750							9.167							8.750							90.0							7.500							8.103							9.167							8.657							9.423							8.636						
95.0							9.062							11.250							8.125							11.250							11.250							11.250							95.0							9.231							9.655							11.667							10.625							12.500							11.500						
99.0							9.812							14.250							9.625							14.250							14.250							14.250							99.0							13.200							15.500							14.667							15.500							17.000							15.500						
NO. OF							OBS.							15.							15.							15.							15.							OBS.							180.							180.							180.							180.							180.							180.													

FOR MONTH OF MAY							INITIAL WIND SPEED 0 TO 10 (M/SEC)							FOR MONTH OF MAY							INITIAL WIND SPEED 20 TO 30 (M/SEC)																																																																												
ALTIMETER 16 TO 20 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							ALTIMETER 16 TO 20 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)																																																																												
WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS							WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS																																																																												
PERCENT							LEVELS							PERCENT							LEVELS																																																																												
1.0							-8.706							-6.550							-7.930							-7.930							-9.059							-9.204							1.0							-17.725							-20.450							-22.725							-22.725							-19.090													
5.0							-4.860							-4.603							-4.670							-4.648							-5.295							-6.019							5.0							-11.812							-13.225							-14.404							-14.788							-16.812							-15.450						
10.0							-4.244							-4.048							-4.031							-3.967							-4.287							-4.245							10.0							-9.380							-10.950							-12.654							-13.038							-14.225							-13.794						
25.0							-2.396							-2.379							-2.114							-1.924							-2.004							-1.201							25.0							-6.650							-7.446							-8.533							-8.894							-10.812							-9.875						
50.0							0.618							0.441							1.029							1.372							1.458							2.036							50.0							-2.411							-3.203							-3.796							-4.519							-5.125							-6.003						
75.0							3.401							3.485							4.074							4.527							4.539							4.704							75.0							2.202							0.662							0.662							-0.144							-0.365							-0.724						
90.0							5.295							6.152							7.488							7.841							8.329							8.833							90.0							5.950							4.876							4.676							4.607							4.577							4.192						
95.0							7.648							8.402							9.137							9.104							9.807							11.325							95.0							8.225							7.464							7.156							7.156							7.875							8.003						
99.0							9.530							11.550							13.663							12.325							14.331							17.325							99.0							10.450							10.450							9.431							9.431							12.725							13.483						
NO. OF							OBS.							207.							207.							207.							207.							207.							OBS.							91.							91.							91.							91.							91.							91.						

TABLE Vd (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72
1.0	-8.745	-8.745	-9.402	-9.035	-9.339	1.0	-14.225	-14.690	-16.900	-19.225	-21.900	-19.380
5.0	-4.894	-4.870	-7.012	-5.173	-6.697	5.0	-11.125	-13.450	-14.300	-16.125	-14.958	-16.900
10.0	-4.371	-4.230	-4.786	-4.435	-4.695	10.0	-9.476	-11.900	-13.267	-14.154	-13.667	-14.400
25.0	-2.802	-2.309	-2.826	-2.675	-2.812	25.0	-7.262	-8.036	-10.167	-10.577	-9.904	-9.907
50.0	-0.187	0.810	0.494	0.316	0.382	50.0	-3.421	-3.056	-5.312	-6.667	-6.923	-7.037
75.0	3.387	3.715	4.142	3.922	4.074	75.0	0.962	1.406	-0.735	-1.731	-2.500	-3.500
90.0	6.650	6.597	7.663	7.953	7.671	90.0	4.538	4.313	3.091	2.667	2.714	-0.400
95.0	8.742	8.621	9.122	9.914	9.201	95.0	6.900	6.125	4.500	4.389	4.929	4.750
99.0	13.113	11.863	14.150	15.817	12.908	99.0	9.380	9.225	11.900	11.900	11.900	8.967
NO. OF						NO. OF						
OBS.	251.	251.	251.	251.	251.	OBS.	62.	62.	62.	62.	62.	62.

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72
1.0	-9.920	-10.417	-13.625	-13.854	-14.450	1.0	-8.900	-8.487	-9.069	-8.900	-8.656	-8.271
5.0	-8.750	-9.133	-9.736	-9.885	-12.250	5.0	-4.951	-4.815	-5.346	-4.944	-4.856	-4.748
10.0	-7.287	-8.024	-8.768	-8.980	-9.824	10.0	-4.411	-4.270	-4.440	-4.333	-4.296	-4.149
25.0	-4.216	-4.833	-5.863	-6.266	-6.919	25.0	-2.790	-2.635	-2.625	-2.500	-2.616	-2.351
50.0	-1.488	-1.763	-2.565	-2.525	-2.966	50.0	-0.089	0.098	0.368	0.591	0.225	0.707
75.0	1.905	2.151	0.925	1.573	0.842	75.0	2.896	3.064	3.325	3.844	3.624	3.995
90.0	4.421	5.481	5.104	5.326	5.109	90.0	4.693	4.843	5.500	7.313	6.903	7.543
95.0	6.328	8.125	7.969	8.315	8.098	95.0	6.967	7.472	8.681	9.203	8.655	9.271
99.0	9.766	11.563	12.708	12.708	12.250	99.0	11.450	11.450	13.986	13.271	12.580	13.617
NO. OF						NO. OF						
OBS.	275.	275.	275.	275.	275.	OBS.	242.	242.	242.	242.	242.	242.

TABLE Vd (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	12	24	36	48	72	PERCENT	12	24	36	48	60	72
LEVELS	1.0	-9.904	-9.904	-13.540	-13.175	-12.567	1.0	-14.500	-9.900	-14.500	-14.833	-14.500
5.0	-8.687	-8.687	-9.689	-9.603	-9.500	-9.462	5.0	-12.500	-9.500	-12.500	-14.167	-12.500
10.0	-7.167	-7.167	-8.703	-8.345	-8.394	-8.550	10.0	-5.000	-9.000	-10.000	-13.333	-10.000
25.0	-4.263	-4.263	-5.743	-4.824	-5.076	-5.812	25.0	-4.167	-7.500	-8.500	-10.833	-8.500
50.0	-1.923	-1.923	-2.754	-2.254	-2.313	-2.794	50.0	-2.778	-5.000	-6.000	-3.750	-4.000
75.0	0.903	0.903	-0.109	3.682	0.887	-0.110	75.0	-1.389	-2.500	-1.250	-0.625	-1.250
90.0	3.944	4.303	4.080	4.000	4.419	3.778	90.0	-0.556	-1.000	2.500	0.000	2.500
95.0	4.958	6.350	6.500	5.500	7.056	5.500	95.0	-0.278	-0.500	3.750	2.500	3.750
99.0	8.957	9.270	9.744	9.671	11.350	9.671	99.0	-0.056	-0.100	4.750	4.500	4.750
NO. OF	146.	146.	146.	146.	146.	146.	NO. OF	10.	10.	10.	10.	10.
OBS.	146.	146.	146.	146.	146.	146.	OBS.	10.	10.	10.	10.	10.

TABLE Ve

May, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF MAY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)				
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	60	72	24	36	48	60	72
1.0	-8.500	-5.500	-7.000	-7.750	-8.875	-8.875	-7.750	-9.866	-11.310	-10.387	-12.364	-11.925
5.0	-4.837	-4.578	-4.625	-4.638	-4.932	-4.932	-4.583	-8.694	-9.115	-9.119	-9.364	-9.276
10.0	-4.348	-4.036	-4.062	-3.986	-4.315	-4.315	-3.833	-7.230	-7.901	-7.994	-8.339	-8.203
25.0	-2.880	-2.410	-2.375	-2.029	-2.466	-2.466	-1.583	-4.345	-4.722	-4.841	-5.264	-4.993
50.0	-0.435	0.305	0.493	1.049	0.682	0.682	2.063	-2.127	-2.438	-2.487	-2.697	-2.513
75.0	2.681	3.049	3.662	3.827	4.091	4.091	5.851	0.221	-0.155	-0.134	-0.270	-0.034
90.0	4.638	4.695	6.667	6.739	7.500	7.500	8.723	3.476	3.147	3.385	3.132	3.299
95.0	6.667	6.667	8.542	8.696	9.000	9.000	9.681	4.562	4.330	4.632	4.413	4.424
99.0	9.667	9.667	11.000	13.000	12.000	12.000	13.500	8.323	8.079	8.879	10.517	8.319
NO. OF OBS.	180.	180.	180.	180.	180.	180.	180.	369.	369.	369.	369.	369.

FOR MONTH OF MAY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				INITIAL DIRECTION 90 TO 135 (DEG)				
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	60	72	24	36	48	60	72
1.0	-8.003	-8.482	-8.946	-9.001	-9.074	-9.074	-9.074	-6.850	-8.582	-8.332	-8.508	-8.110
5.0	-4.737	-4.801	-4.969	-5.007	-5.372	-5.372	-5.372	-4.574	-4.791	-4.719	-4.763	-4.633
10.0	-4.210	-4.219	-4.365	-4.326	-4.394	-4.394	-4.398	-3.949	-4.082	-4.017	-4.043	-3.854
25.0	-2.628	-2.473	-2.552	-2.300	-2.418	-2.418	-2.435	-2.076	-1.956	-1.912	-1.885	-1.518
50.0	0.008	0.408	0.482	0.890	0.856	0.856	0.822	0.903	1.198	1.322	1.400	1.696
75.0	2.991	3.127	3.583	3.680	4.072	4.072	4.038	3.598	3.873	4.226	4.341	4.475
90.0	4.781	4.758	6.355	6.242	7.327	7.327	7.399	5.897	6.601	7.464	7.613	7.750
95.0	7.073	6.846	8.253	8.198	8.821	8.821	8.994	8.147	8.396	8.940	9.002	9.087
99.0	9.691	9.510	9.771	9.763	10.293	10.293	12.671	9.947	9.831	11.664	11.664	11.850
NO. OF OBS.	759.	759.	759.	759.	759.	759.	759.	567.	567.	567.	567.	567.

TABLE Ve (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 10 TO 20 (M/SEC)					FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)					ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72			
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72			
1.0	-9.683	-9.731	-13.415	-13.239	-13.915	-14.550	1.0	-9.367	-4.881	-9.050	-4.854	-4.854			
5.0	-8.615	-8.657	-9.536	-9.511	-9.654	-9.946	5.0	-6.833	-4.406	-5.250	-4.269	-4.269			
10.0	-7.030	-7.314	-8.278	-8.379	-8.521	-8.943	10.0	-4.714	-3.812	-4.182	-3.538	-3.538			
25.0	-4.239	-4.397	-4.807	-4.992	-5.125	-5.934	25.0	-2.679	-2.031	-1.591	-1.346	-1.346			
50.0	-2.025	-2.039	-2.361	-2.468	-2.500	-2.892	50.0	0.556	0.789	2.000	1.765	1.765			
75.0	0.438	0.664	0.205	0.141	0.133	-0.302	75.0	3.194	3.289	5.250	4.559	4.559			
90.0	3.526	3.599	3.754	3.976	3.735	3.420	90.0	4.778	4.789	8.100	7.625	7.625			
95.0	4.555	4.577	4.937	5.829	4.936	4.835	95.0	6.833	7.750	9.050	8.812	8.812			
99.0	9.184	8.644	9.929	9.166	8.943	9.923	99.0	9.367	13.100	9.810	9.762	9.762			
NO. OF							NO. OF								
OBS.	317.	317.	317.	317.	317.	317.	OBS.	38.	38.	38.	38.	38.			

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)					FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72			
LEVELS	12	24 <td>36</td> <td>48</td> <td>60</td> <td>LEVELS</td> <td>12</td> <td>24<td>36</td><td>48</td><td>60</td><td>72</td></td>	36	48	60	LEVELS	12	24 <td>36</td> <td>48</td> <td>60</td> <td>72</td>	36	48	60	72			
1.0	-8.025	-8.025	-8.683	-8.025	-8.025	-9.012	1.0	-9.000	-9.000	-4.882	-8.000	-9.000			
5.0	-4.736	-4.695	-4.810	-4.625	-4.594	-5.062	5.0	-5.000	-5.000	-4.412	-4.444	-5.000			
10.0	-4.203	-4.078	-4.020	-3.865	-3.771	-4.114	10.0	-4.444	-4.333	-3.624	-3.333	-4.231			
25.0	-2.601	-2.227	-1.650	-1.587	-1.302	-1.420	25.0	-2.778	-2.333	-2.647	-2.059	-1.923			
50.0	0.074	0.764	1.513	1.742	1.985	2.177	50.0	-0.	0.714	0.357	0.750	2.174			
75.0	2.978	3.507	4.112	4.735	4.890	5.625	75.0	3.333	3.095	3.929	3.250	4.348			
90.0	4.721	5.811	7.125	8.156	8.964	8.917	90.0	6.000	4.524	7.500	4.750	7.837			
95.0	6.708	7.806	8.771	9.391	11.750	10.063	95.0	8.000	5.000	9.167	6.667	9.286			
99.0	9.342	9.561	16.050	13.025	18.025	14.013	99.0	9.800	9.000	13.000	9.333	13.000			
NO. OF							NO. OF								
OBS.	79.	79.	79.	79.	79.	79.	OBS.	40.	40.	40.	40.	40.			

TABLE Ve (cont'd)

FOR MONTH OF MAY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)						
MAY			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-8.100	-4.873	-4.827	-9.050	-8.100	-4.864	1.0	-4.897	-8.450	-6.900	-8.450	-8.450
5.0	-4.679	-4.367	-4.136	-5.250	-4.550	-4.321	5.0	-4.483	-4.838	-4.661	-4.738	-4.711
10.0	-4.000	-3.733	-3.273	-4.357	-3.600	-3.643	10.0	-3.967	-4.382	-4.161	-4.000	-3.895
25.0	-1.964	-1.833	-0.682	-2.321	-0.750	-1.607	25.0	-2.417	-3.015	-2.661	-1.786	-1.447
50.0	1.176	1.000	1.667	1.000	2.105	1.563	50.0	0.167	-0.735	-0.161	1.429	1.852
75.0	3.971	3.375	3.646	4.167	4.605	4.531	75.0	2.750	2.386	3.452	4.196	4.722
90.0	6.833	4.800	4.833	7.286	8.500	7.625	90.0	4.300	4.500	6.750	7.667	8.250
95.0	8.417	6.833	7.750	8.643	10.250	8.812	95.0	4.817	6.125	8.688	9.389	9.542
99.0	9.683	9.367	13.100	9.729	14.050	9.762	99.0	8.450	9.225	11.900	13.450	13.450
NO. OF OBS.	38.	38.	38.	38.	38.	38.	NO. OF OBS.	62.	62.	62.	62.	62.

TABLE VIa

June, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		0 TO 45 (DEG)		0 TO 45 (DEG)		ALTITUDE 1 TO 5 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		0 TO 45 (DEG)		0 TO 45 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-7.167	-8.300	-8.583	-9.056	-9.393	-9.583	-9.583	1.0	-6.436	-6.783	-9.424	-9.524	-9.524	-9.479	-9.356
5.0	-4.704	-4.794	-4.864	-5.278	-6.964	-4.826	-4.826	5.0	-4.846	-4.924	-7.118	-7.620	-7.620	-7.393	-6.779
10.0	-4.247	-4.294	-4.402	-4.412	-4.779	-4.236	-4.236	10.0	-4.418	-4.496	-4.874	-5.239	-5.239	-4.956	-4.779
25.0	-2.876	-2.794	-3.016	-2.537	-2.904	-2.465	-2.465	25.0	-3.135	-3.213	-3.446	-3.516	-3.516	-3.346	-3.300
50.0	-0.591	-0.294	-0.707	0.588	0.224	0.547	0.547	50.0	-0.996	-1.074	-1.065	-0.958	-0.958	-0.662	-0.833
75.0	2.386	2.679	2.950	3.713	3.396	3.867	3.867	75.0	1.924	1.892	2.161	2.378	2.378	2.611	2.627
90.0	4.318	4.500	6.250	6.667	5.952	6.964	6.964	90.0	4.086	4.174	4.507	4.660	4.660	4.690	5.024
95.0	4.982	5.833	8.375	8.438	7.976	8.482	8.482	95.0	4.806	4.934	6.446	6.891	6.891	7.161	7.831
99.0	8.938	9.611	10.750	9.854	9.595	9.696	9.696	99.0	8.631	8.905	9.575	9.628	9.628	11.350	9.717
NO. OF	170.	170.	170.	170.	170.	170.	170.	NO. OF	219.	219.	219.	219.	219.	219.	219.
OBS.	170.	170.	170.	170.	170.	170.	170.	OBS.	219.	219.	219.	219.	219.	219.	219.

FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		0 TO 45 (DEG)		0 TO 45 (DEG)		ALTITUDE 1 TO 5 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		0 TO 135 (DEG)		0 TO 135 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.833	-14.500	-14.500	-14.500	-14.500	-14.833	-14.750	1.0	-5.350	-5.350	-5.350	-5.350	-6.140	-6.450	-6.140
5.0	-9.167	-12.500	-12.500	-12.500	-12.500	-14.167	-13.750	5.0	-4.642	-4.642	-4.639	-4.635	-4.744	-4.786	-4.717
10.0	-8.333	-10.000	-10.000	-10.000	-10.000	-13.333	-12.500	10.0	-4.186	-4.186	-4.178	-4.170	-4.190	-4.182	-4.105
25.0	-5.833	-7.500	-8.750	-8.750	-10.833	-9.583	-9.583	25.0	-2.819	-2.819	-2.797	-2.775	-2.530	-2.370	-2.270
50.0	-2.500	-4.000	-6.667	-6.667	-6.667	-7.500	-7.500	50.0	-0.539	-0.539	-0.495	-0.450	0.244	0.633	0.723
75.0	1.250	-1.500	-3.750	-4.167	-3.125	-5.417	-5.417	75.0	2.465	2.465	2.500	2.737	3.079	3.576	3.524
90.0	5.000	0.000	0.000	-1.667	-1.250	0.000	0.000	90.0	4.403	4.403	4.411	4.809	4.780	6.227	5.850
95.0	7.500	2.500	2.500	-0.833	-0.833	2.500	2.500	95.0	5.350	5.350	5.350	7.233	6.900	8.341	8.175
99.0	9.500	4.500	4.500	-0.167	-0.125	4.500	4.500	99.0	9.070	9.070	9.070	9.713	9.380	10.350	10.700
NO. OF	10.	10.	10.	10.	10.	10.	10.	NO. OF	186.	186.	186.	186.	186.	186.	186.
OBS.	10.	10.	10.	10.	10.	10.	10.	OBS.	186.	186.	186.	186.	186.	186.	186.



TABLE VIa (cont'd)

FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 135 TO 180 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				PERCENT				PERCENT				PERCENT			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72			LEVELS	12	24	36	48	60	72	
1.0	-7.925	-4.981	-6.617	-6.962	-9.111	-9.170		1.0	-9.794	-9.903	-13.350	-14.450	-14.725	-19.175	
5.0	-4.750	-4.601	-4.864	-4.980	-5.554	-5.850		5.0	-8.969	-9.515	-9.870	-12.250	-13.625	-15.875	
10.0	-4.267	-4.126	-4.374	-4.424	-4.500	-4.546		10.0	-7.937	-9.029	-9.540	-9.937	-12.250	-14.187	
25.0	-2.820	-2.700	-2.904	-2.757	-2.787	-2.833		25.0	-4.940	-7.574	-8.550	-8.906	-9.437	-11.094	
50.0	-0.407	-0.324	-0.453	0.025	0.076	0.027		50.0	-2.976	-5.147	-6.900	-7.187	-7.375	-7.969	
75.0	2.512	2.688	2.788	3.076	3.220	3.374		75.0	-1.012	-2.019	-5.250	-5.469	-5.312	-5.391	
90.0	4.325	4.555	4.841	4.907	5.404	6.183		90.0	1.750	-0.115	-1.917	-2.300	-1.917	-2.357	
95.0	4.930	6.183	7.170	7.776	7.798	8.258		95.0	6.750	12.250	-0.542	-0.650	-0.542	-1.179	
99.0	8.868	9.503	9.434	11.888	9.713	9.918		99.0	13.350	14.450	18.350	3.350	3.350	-0.236	
NO. OF								NO. OF							
OBS.	249.	249.	249.	249.	249.	249.		OBS.	33.	33.	33.	33.	33.	33.	

FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				PERCENT				PERCENT				PERCENT			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72			LEVELS	12	24	36	48	60	72	
1.0	-9.006	-6.721	-9.186	-9.254	-9.337	-9.361		1.0	-7.150	-8.860	-9.009	-9.287	-9.309	-9.544	
5.0	-5.028	-4.889	-5.932	-6.271	-6.685	-6.804		5.0	-4.664	-4.936	-5.043	-6.437	-6.545	-7.720	
10.0	-4.494	-4.381	-4.596	-4.683	-4.761	-4.772		10.0	-4.145	-4.416	-4.454	-4.678	-4.699	-5.440	
25.0	-2.959	-2.855	-3.026	-3.239	-3.302	-3.202		25.0	-2.591	-2.834	-2.802	-3.057	-3.062	-3.359	
50.0	-0.426	-0.312	-0.409	-0.833	-0.870	-0.585		50.0	-0.	-0.251	-0.048	-0.355	-0.335	-0.436	
75.0	2.719	2.996	3.199	2.683	2.875	3.048		75.0	2.953	2.994	3.522	3.722	3.788	3.489	
90.0	4.679	5.176	6.333	5.457	6.436	6.243		90.0	4.725	4.983	6.698	7.529	7.716	7.316	
95.0	6.820	7.809	8.464	8.014	8.731	8.662		95.0	6.848	7.707	8.508	9.206	9.418	9.316	
99.0	9.684	9.915	11.775	10.525	13.683	13.683		99.0	9.612	9.932	9.956	15.733	14.350	17.440	
NO. OF								NO. OF							
OBS.	358.	358.	358.	358.	358.	358.		OBS.	456.	456.	456.	456.	456.	456.	

TABLE Via (cont'd)

FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS		
LEVELS	12	24	36	LEVELS	12	24	36	LEVELS	12	24	36	LEVELS	12	24	36
1.0	-10.000	-12.500	-13.333	-12.500	-15.000	-14.444		1.0	-8.355	-8.355	-9.252	-9.177	-9.134	-9.177	
5.0	-8.462	-9.545	-9.773	-9.667	-11.667	-12.222		5.0	-4.819	-4.801	-6.261	-5.887	-5.671	-5.887	
10.0	-6.538	-8.788	-9.205	-9.111	-9.706	-9.900		10.0	-4.357	-4.293	-4.648	-4.546	-4.537	-4.532	
25.0	-4.098	-6.515	-7.500	-7.444	-8.235	-8.400		25.0	-2.971	-2.770	-3.056	-2.808	-2.892	-2.839	
50.0	-2.049	-3.214	-4.531	-4.605	-5.784	-5.900		50.0	-0.660	-0.231	-0.403	0.113	-0.150	0.024	
75.0	0.	-0.238	-0.625	-1.316	-2.500	-2.778		75.0	2.388	2.990	3.453	3.618	3.738	3.940	
90.0	4.412	5.833	3.929	3.125	-0.294	-0.694		90.0	4.394	4.964	7.105	7.406	7.511	7.765	
95.0	8.000	10.000	7.500	7.500	3.750	0.000		95.0	5.431	7.592	9.017	9.120	9.299	9.444	
99.0	13.333	15.000	15.000	20.000	10.000	5.000		99.0	9.086	9.785	13.925	13.925	14.194	14.283	
NO. OF				NO. OF				NO. OF				NO. OF			
OBS.	100.	100.	100.	100.	100.	100.		OBS.	329.	329.	329.	329.	329.	329.	

FOR MONTH OF JUNE				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS		
LEVELS	12	24	36	LEVELS	12	24	36	LEVELS	12	24	36	LEVELS	12	24	36
1.0	-19.817	-24.725	-24.725	-24.862	-24.725	-24.725		1.0	-9.779	-12.675	-13.450	-10.350	-13.837	-14.419	
5.0	-19.083	-23.625	-23.625	-24.312	-23.625	-23.625		5.0	-8.893	-9.337	-9.716	-9.463	-9.914	-12.094	
10.0	-18.167	-22.250	-22.250	-22.250	-22.250	-22.250		10.0	-7.786	-8.175	-8.914	-8.779	-9.303	-9.824	
25.0	-15.417	-18.750	-19.062	-21.562	-19.464	-19.464		25.0	-4.738	-4.864	-6.509	-6.728	-7.467	-7.939	
50.0	-11.875	-14.167	-15.625	-16.250	-17.500	-17.500		50.0	-2.035	-2.337	-3.314	-3.487	-4.375	-4.758	
75.0	-6.875	-9.375	-12.187	-12.750	-15.536	-15.536		75.0	1.369	0.515	-0.610	-0.426	-1.146	-1.008	
90.0	7.250	-5.250	-10.125	-11.100	-12.750	-12.750		90.0	4.690	4.618	4.350	3.567	2.591	2.982	
95.0	8.625	-2.750	-7.750	-10.550	-11.375	-11.375		95.0	7.094	7.792	8.350	5.438	4.705	4.750	
99.0	9.725	-0.550	-5.550	-10.110	-10.275	-10.275		99.0	9.419	12.675	20.350	10.350	15.350	8.838	
NO. OF				NO. OF				NO. OF				NO. OF			
OBS.	11.	11.	11.	11.	11.	11.		OBS.	93.	93.	93.	93.	93.	93.	

TABLE VIa (cont'd)

FOR MONTH OF JUNE		INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE	1 TO 5 (KM)	INITIAL DIRECTION 315 TO 360 (DEG)				
		WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT LEVELS	ELAPSED TIME IN HOURS					
	12	24	36	48	60	72
1.0	-8.893	-8.893	-9.225	-8.450	-9.031	-9.139
5.0	-4.956	-4.952	-6.125	-4.826	-5.156	-5.694
10.0	-4.500	-4.455	-4.638	-4.335	-4.525	-4.578
25.0	-3.132	-2.965	-3.109	-2.864	-3.054	-3.068
50.0	-0.853	-0.481	-0.559	-0.411	-0.601	-0.552
75.0	2.091	2.520	3.025	3.042	3.179	3.151
90.0	4.095	4.395	5.972	5.962	6.806	6.447
95.0	4.763	5.156	8.125	8.942	8.958	8.487
99.0	8.450	9.031	9.847	13.450	14.083	12.250
NO. OF OBS.	155.	155.	155.	155.	155.	155.

# June, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed From Eight Years of Serially Completed Rawinsonde Wind Profile Data

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TABLE Vib (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS					
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-8.383	-5.150	-9.030	-8.787	-8.383	-8.383	1.0	-8.267	-8.267	-8.267	-7.400	-7.400	-9.133	-8.960
5.0	-4.794	-4.465	-5.150	-4.879	-4.711	-4.681	5.0	-4.732	-4.732	-4.725	-4.610	-4.590	-5.667	-4.970
10.0	-4.256	-3.792	-4.329	-4.186	-3.953	-3.845	10.0	-4.098	-4.098	-4.075	-3.976	-3.923	-4.290	-4.182
25.0	-2.639	-1.771	-2.250	-2.107	-1.680	-1.336	25.0	-2.195	-2.195	-2.125	-2.073	-1.923	-1.774	-1.818
50.0	0.069	1.337	1.328	1.532	2.250	2.426	50.0	0.976	0.976	1.184	1.731	1.486	2.143	1.842
75.0	3.438	4.157	5.197	5.724	7.279	6.776	75.0	4.146	4.146	4.605	6.731	5.000	6.250	5.417
90.0	6.650	7.433	9.026	9.553	12.038	11.045	90.0	7.688	7.688	8.500	9.731	9.105	9.500	8.667
95.0	9.075	9.050	11.150	13.938	13.904	13.250	95.0	9.313	9.313	9.944	13.167	12.250	12.800	9.750
99.0	13.383	12.575	15.150	20.150	17.575	15.150	99.0	14.900	14.900	19.800	19.900	24.900	19.900	17.400
NO. OF							NO. OF							
OBS.	97.	97.	97.	97.	97.	97.	OBS.	104.	104.	104.	104.	104.	104.	104.

FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)			JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS					
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-14.150	-14.717	-14.717	-14.575	-9.906	-14.150	1.0	-19.050	-14.050	-14.050	-14.525	-9.683	-14.525	-14.050
5.0	-10.750	-13.583	-13.583	-12.875	-9.528	-10.750	5.0	-15.250	-10.250	-10.250	-12.625	-8.417	-12.625	-10.250
10.0	-9.611	-12.167	-12.167	-10.750	-9.056	-9.417	10.0	-10.500	-9.591	-9.591	-10.250	-6.833	-10.250	-8.875
25.0	-8.194	-7.917	-7.917	-8.393	-7.639	-7.292	25.0	-8.472	-8.295	-8.295	-4.625	-4.028	-3.472	-5.312
50.0	-5.833	-3.611	-3.611	-5.357	-5.278	-4.167	50.0	-5.833	-6.136	-6.136	-2.250	-1.389	-0.833	-2.187
75.0	-2.708	-1.250	-1.250	-2.321	2.188	-1.806	75.0	-2.679	-2.750	-2.750	0.250	1.875	2.708	1.563
90.0	-0.583	1.500	1.500	-0.500	6.500	-0.389	90.0	-0.643	0.250	0.250	3.100	4.250	5.500	5.250
95.0	5.750	5.750	10.750	15.750	20.750	15.750	95.0	0.250	2.625	2.625	4.050	5.250	10.250	7.625
99.0	9.150	9.150	14.150	19.150	24.150	19.150	99.0	4.050	4.525	4.525	4.810	9.050	14.050	9.525
NO. OF							NO. OF							
OBS.	17.	17.	17.	17.	17.	17.	OBS.	19.	19.	19.	19.	19.	19.	19.

TABLE VIIb (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTIITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72
1.0	-7.033	-8.220	-9.011	-8.729	-9.011	1.0	-6.575	-8.755	-8.946	-9.087	-9.239	-9.144
5.0	-4.612	-4.736	-5.056	-4.854	-5.056	5.0	-4.602	-4.869	-4.964	-5.433	-6.194	-5.719
10.0	-4.026	-4.135	-4.302	-4.169	-4.343	10.0	-4.041	-4.204	-4.265	-4.466	-4.588	-4.548
25.0	-2.270	-2.331	-2.183	-2.115	-2.283	25.0	-2.357	-2.209	-2.168	-2.694	-2.785	-2.917
50.0	0.694	0.820	1.214	1.232	1.000	50.0	0.519	1.065	1.215	0.306	0.261	-0.198
75.0	3.785	4.467	4.393	4.457	4.423	75.0	3.750	4.236	4.416	3.801	4.129	4.178
90.0	6.917	6.061	7.844	8.097	8.310	90.0	7.147	8.075	8.405	7.839	8.556	8.575
95.0	8.771	9.409	9.234	9.532	11.050	95.0	9.162	9.788	10.115	10.125	11.100	10.719
99.0	12.033	18.700	18.050	15.550	14.443	99.0	13.288	14.630	14.331	14.692	14.753	14.144
NO. OF						NO. OF						
OBS.	176.	176.	176.	176.	176.	OBS.	274.	274.	274.	274.	274.	274.

FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIITUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTIITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	24	36	48	60	72	PERCENT	12	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60	72
1.0	-13.100	-16.200	-16.200	-16.100	-16.200	1.0	-12.062	-13.694	-16.083	-14.897	-14.908	-14.662
5.0	-9.308	-9.826	-12.200	-10.500	-11.500	5.0	-9.077	-9.750	-9.945	-12.132	-12.434	-12.312
10.0	-7.846	-9.000	-9.636	-9.250	-9.581	10.0	-7.679	-8.682	-9.081	-9.625	-9.811	-9.631
25.0	-4.524	-6.522	-7.045	-6.875	-7.742	25.0	-4.404	-5.477	-6.489	-6.687	-7.140	-7.449
50.0	-2.262	-3.065	-3.333	-3.611	-4.545	50.0	-1.659	-2.270	-2.652	-2.708	-3.140	-3.645
75.0	-0.	-0.	-0.167	-3.972	-0.227	75.0	1.938	1.484	1.694	1.616	1.066	-0.105
90.0	3.800	4.385	3.467	2.200	3.250	90.0	4.875	5.375	6.447	7.344	6.771	5.875
95.0	5.333	6.833	4.733	4.100	4.438	95.0	8.417	8.313	9.539	11.161	9.219	8.813
99.0	11.200	9.367	8.733	8.100	8.100	99.0	13.875	13.313	14.781	14.518	14.708	13.875
NO. OF						NO. OF						
OBS.	76.	76.	76.	76.	76.	OBS.	235.	235.	235.	235.	235.	235.

TABLE VIb (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-14.740	-14.814	-19.567	-18.700	-14.882	-24.350	1.0	-12.580	-13.580	-13.992	-14.606	-14.664	-15.967
5.0	-13.700	-14.071	-17.833	-14.812	-14.409	-21.750	5.0	-8.956	-9.523	-9.993	-11.917	-13.319	-13.700
10.0	-12.400	-13.143	-15.667	-14.000	-13.818	-19.400	10.0	-7.176	-8.578	-9.129	-9.667	-11.639	-11.971
25.0	-8.750	-10.357	-11.500	-11.562	-12.045	-15.500	25.0	-3.966	-5.742	-6.536	-7.340	-8.506	-8.370
50.0	-3.889	-5.714	-7.727	-8.462	-9.091	-11.667	50.0	-1.058	-2.135	-2.833	-3.500	-4.792	-4.054
75.0	-0.278	-2.250	-4.583	-5.962	-6.136	-7.812	75.0	3.156	2.961	1.638	0.608	-0.590	0.074
90.0	4.250	-0.300	-1.333	-2.667	-2.667	-5.375	90.0	7.300	8.250	7.800	5.905	6.611	5.824
95.0	6.750	1.750	-0.250	-0.500	-0.500	-3.250	95.0	9.317	10.500	9.817	8.786	9.972	9.382
99.0	9.350	4.350	3.700	3.700	8.700	-0.650	99.0	13.986	17.633	16.450	18.950	16.450	16.450
NO. OF OBS.	26.	26.	26.	26.	26.	26.	NO. OF OBS.	242.	242.	242.	242.	242.	242.

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 20 TO 30 (M/SEC)				
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-8.956	-8.887	-9.205	-8.608	-9.018	-9.018	1.0	-18.900	-19.175	-21.700	-21.700	-23.350	-26.700
5.0	-4.974	-4.938	-6.024	-4.807	-5.088	-5.088	5.0	-14.812	-15.875	-18.562	-19.042	-19.409	-22.125
10.0	-4.360	-4.328	-4.461	-4.123	-4.379	-4.374	10.0	-12.750	-14.316	-16.500	-17.667	-17.909	-19.556
25.0	-2.518	-2.500	-2.283	-2.070	-2.481	-2.462	25.0	-8.750	-11.711	-13.214	-13.971	-14.239	-16.806
50.0	0.547	0.636	1.409	1.618	1.047	1.131	50.0	-5.000	-7.500	-9.118	-9.286	-10.652	-12.059
75.0	3.595	4.174	5.369	6.066	6.211	6.682	75.0	0.208	-2.045	-3.611	-5.357	-6.625	-7.206
90.0	6.415	8.326	9.475	5.750	10.333	12.125	90.0	4.333	3.375	2.429	-2.000	-2.571	-2.600
95.0	8.451	10.382	12.575	13.023	13.813	14.734	95.0	7.833	5.875	4.786	-0.821	-0.214	1.167
99.0	10.825	14.312	18.660	18.883	21.100	22.767	99.0	13.350	9.175	11.700	1.700	11.700	11.700
NO. OF OBS.	334.	334.	334.	334.	334.	334.	NO. OF OBS.	66.	66.	66.	66.	66.	66.

TABLE VIb (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-7.225	-8.612	-8.890	-9.075	-9.146	-8.991	-16.650	-13.425	-16.650	-16.425	-16.425
5.0	-4.694	-4.848	-4.945	-5.375	-5.731	-4.993	-11.417	-9.739	-13.464	-13.562	-14.179
10.0	-4.216	-4.304	-4.390	-4.501	-4.410	-4.188	-9.115	-9.023	-11.214	-9.929	-11.929
25.0	-2.780	-2.672	-2.725	-2.021	-2.276	-1.775	-5.481	-6.875	-8.155	-7.679	-8.125
50.0	-0.388	0.071	0.081	1.625	1.370	1.649	-2.500	-3.437	-4.375	-4.022	-4.022
75.0	2.835	4.036	4.556	5.179	5.338	4.601	0.521	-0.156	-0.437	-3.598	0.938
90.0	4.866	7.605	8.658	9.143	9.838	8.583	4.458	4.833	6.929	6.750	4.875
95.0	7.618	9.066	10.409	11.625	13.300	10.750	8.850	7.850	9.179	12.313	12.125
99.0	11.300	12.225	14.445	16.300	18.150	18.150	9.370	11.850	13.425	16.850	16.850
NO. OF							NO. OF				
OBS.	222.	222.	222.	222.	222.	222.	OBS.	63.	63.	63.	63.



TABLE VIC

June, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				JUNE				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTIMUDE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMUDE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12				24	36	48	72	LEVELS 12				24	36	48	72
1.0				-6.950	-6.475	-6.950	-7.967	1.0				-18.750	-28.750	-24.375	-19.687
5.0				-4.461	-4.700	-4.212	-4.295	5.0				-19.375	-21.875	-21.875	-18.437
10.0				-3.658	-3.829	-3.038	-2.810	10.0				-16.250	-14.167	-17.500	-16.875
25.0				-1.250	-1.214	0.329	0.833	25.0				-11.750	-9.583	-12.679	-12.750
50.0				2.234	2.619	4.342	4.744	50.0				-4.038	-7.187	-7.500	-8.056
75.0				5.865	6.810	9.397	8.958	75.0				-1.635	-3.472	-5.417	-5.139
90.0				9.385	9.966	14.625	16.000	90.0				-0.192	-1.389	-2.500	-1.500
95.0				12.417	13.688	19.900	29.500	95.0				3.750	-0.694	-1.250	-0.250
99.0				17.967	24.633	36.950	38.475	99.0				8.750	-0.139	-0.250	3.750
NO. OF								NO. OF							
OBS.				122.	122.	122.	122.	OBS.				25.	25.	25.	25.

FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)				JUNE				INITIAL WIND SPEED 0 TO 15 (M/SEC)			
ALTIMUDE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS 12				24	36	48	72	LEVELS 12				24	36	48	72
1.0				-14.606	-15.725	-17.862	-14.050	1.0				-8.600	-9.067	-9.067	-9.600
5.0				-10.806	-12.481	-11.208	-10.250	5.0				-4.778	-5.333	-5.333	-5.333
10.0				-8.817	-9.682	-9.014	-8.905	10.0				-4.000	-4.071	-4.071	-4.071
25.0				-4.801	-5.795	-5.451	-5.439	25.0				-1.667	-1.667	-1.071	-1.071
50.0				-1.703	-2.024	-1.762	-1.595	50.0				1.739	2.000	3.235	3.438
75.0				2.601	2.270	3.542	2.820	75.0				4.783	6.111	7.667	9.462
90.0				8.038	6.441	8.521	6.643	90.0				9.111	11.400	12.333	14.400
95.0				12.464	8.956	10.906	8.679	95.0				12.000	14.200	17.000	20.333
99.0				26.450	13.290	21.450	12.150	99.0				17.200	27.200	24.067	32.200
NO. OF								NO. OF							
OBS.				171.	171.	171.	171.	OBS.				56.	56.	56.	56.

TABLE VIc (cont'd)

FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)				JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 90 TO 135 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-13.150	-14.817	-14.306	-13.612	-14.363	-13.612	-13.612	1.0	-4.861	-8.675	-7.350	-8.675	-8.675	-8.675	-4.735
5.0	-9.469	-9.544	-11.531	-9.631	-11.917	-9.702	-9.702	5.0	-4.303	-4.763	-3.969	-4.729	-4.729	-4.750	-3.875
10.0	-6.312	-7.912	-9.295	-6.310	-9.596	-6.635	-6.635	10.0	-3.605	-3.900	-2.312	-3.625	-3.625	-3.731	-2.350
25.0	-4.909	-4.338	-5.511	-4.730	-6.394	-5.433	-5.433	25.0	-1.513	-1.250	1.110	-0.312	-0.673	0.956	0.956
50.0	-1.524	-1.618	-1.690	-2.010	-2.500	-2.344	-2.344	50.0	1.974	2.373	4.605	3.906	3.208	4.853	4.853
75.0	2.542	2.679	2.356	1.908	1.510	1.458	1.458	75.0	5.673	6.250	10.469	9.432	11.094	10.750	10.750
90.0	5.950	7.300	6.318	6.500	4.979	7.167	7.167	90.0	8.731	9.864	15.875	14.188	17.833	19.625	19.625
95.0	8.725	9.150	8.641	12.464	10.750	12.250	12.250	95.0	9.750	15.875	19.188	18.375	22.250	26.375	26.375
99.0	13.150	14.725	19.450	27.225	29.450	29.450	29.450	99.0	13.875	22.350	23.675	27.350	27.350	33.875	33.875
NO. OF								NO. OF							
OBS.	111.	111.	111.	111.	111.	111.	111.	OBS.	53.	53.	53.	53.	53.	53.	53.

FOR MONTH OF JUNE				INITIAL WIND SPEED 20 TO 30 (M/SEC)				JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 90 TO 135 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-19.700	-19.400	-19.700	-19.400	-19.400	-19.400	-19.700	1.0	-9.670	-14.175	-14.175	-14.450	-14.450	-14.175	-9.670
5.0	-18.500	-17.000	-18.500	-17.000	-17.000	-17.000	-18.500	5.0	-8.350	-10.875	-10.875	-12.250	-12.250	-10.875	-8.350
10.0	-17.000	-14.500	-17.000	-14.750	-14.875	-17.000	-17.000	10.0	-6.700	-6.750	-6.750	-9.350	-9.812	-8.375	-6.700
25.0	-12.500	-10.000	-13.750	-12.500	-13.750	-13.333	-13.333	25.0	-3.646	-3.482	-3.482	-6.675	-6.719	-3.977	-3.194
50.0	-8.571	-3.333	-10.000	-9.000	-11.875	-8.333	-8.333	50.0	-0.208	-0.536	-0.536	-2.750	-2.250	-0.227	0.893
75.0	-6.429	5.000	-7.000	-6.000	-10.000	-3.333	-3.333	75.0	3.875	3.375	3.375	1.964	2.083	3.229	3.839
90.0	-5.143	9.500	-5.200	4.000	-3.000	-0.333	-0.333	90.0	7.700	7.833	5.675	4.833	5.675	7.125	7.125
95.0	2.000	12.000	-3.000	7.000	-1.500	2.000	2.000	95.0	9.350	11.750	7.938	6.375	7.938	9.188	9.188
99.0	4.400	14.400	-0.600	9.400	-0.300	4.400	4.400	99.0	18.350	18.350	9.587	23.350	23.350	9.587	13.350
NO. OF								NO. OF							
OBS.	12.	12.	12.	12.	12.	12.	12.	OBS.	33.	33.	33.	33.	33.	33.	33.

TABLE VIc (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.900	-14.750	-24.500	-14.875	-14.900	1.0	-14.000	-14.000	-9.833	-9.667	-14.500
5.0	-9.500	-13.750	-22.500	-14.375	-14.500	5.0	-10.000	-10.000	-9.167	-8.333	-12.500
10.0	-9.000	-12.500	-15.000	-13.750	-14.000	10.0	-9.286	-9.000	-8.333	-6.667	-10.000
25.0	-7.500	-9.500	-11.250	-11.875	-12.500	25.0	-7.143	-6.000	-5.833	-3.750	-3.333
50.0	-5.000	-7.000	-8.571	-7.500	-10.000	50.0	-3.889	-2.500	-1.000	-0.625	1.000
75.0	-1.875	-4.167	-6.786	-2.500	-5.833	75.0	-1.111	2.500	3.333	5.000	6.000
90.0	0.000	-1.667	-5.714	10.000	0.000	90.0	2.500	8.333	10.000	10.000	9.000
95.0	2.500	-0.833	-5.357	12.500	2.500	95.0	5.000	10.000	15.000	12.500	10.000
99.0	4.500	-0.167	-5.071	14.500	4.500	99.0	9.000	14.000	19.000	14.500	14.000
NO. OF	10.	10.	10.	10.	10.	NO. OF	20.	20.	20.	20.	20.
OBS.	10.	10.	10.	10.	10.	OBS.	20.	20.	20.	20.	20.

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.362	-9.150	-9.150	-7.450	-8.725	1.0	-5.200	-8.800	-7.600	-8.800	-8.800
5.0	-6.812	-5.750	-5.750	-4.404	-4.694	5.0	-4.587	-4.857	-4.588	-4.897	-4.750
10.0	-4.676	-4.250	-4.045	-3.423	-3.278	10.0	-4.085	-4.000	-3.882	-4.282	-4.083
25.0	-2.426	-1.518	-0.568	-0.481	0.583	25.0	-2.500	-1.429	-1.765	-2.436	-2.083
50.0	1.324	2.833	4.423	3.594	6.094	50.0	0.139	1.951	2.000	1.000	1.500
75.0	5.139	7.232	9.687	9.438	10.179	75.0	3.472	4.878	6.429	6.176	6.000
90.0	9.389	9.964	14.929	13.900	17.250	90.0	6.700	8.941	9.857	11.400	12.000
95.0	13.625	17.250	21.125	21.125	23.625	95.0	9.100	11.200	14.200	20.333	16.500
99.0	18.725	23.725	27.450	27.450	28.725	99.0	13.400	15.200	20.200	35.200	30.200
NO. OF	51.	51.	51.	51.	51.	NO. OF	96.	96.	96.	96.	96.
OBS.	51.	51.	51.	51.	51.	OBS.	96.	96.	96.	96.	96.

TABLE VIC (cont'd)

FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-13.350	-17.925	-19.050	-14.450	-14.175	-14.010		1.0	-7.967	-4.963	-7.967	-8.400	-9.200	-9.720	
5.0	-9.391	-10.083	-11.708	-12.250	-10.875	-10.050		5.0	-4.553	-4.289	-4.500	-4.667	-6.000	-4.794	
10.0	-7.944	-8.711	-9.396	-9.786	-8.917	-8.886		10.0	-3.711	-3.447	-3.559	-3.778	-4.172	-3.853	
25.0	-4.263	-4.690	-6.302	-6.250	-4.879	-5.311		25.0	-1.184	-0.921	-0.735	-1.111	-0.882	-1.029	
50.0	-1.090	-1.250	-1.917	-1.750	-0.887	-1.591		50.0	1.983	2.604	3.375	2.791	3.068	4.167	
75.0	3.869	3.125	3.155	2.850	3.850	3.393		75.0	4.741	6.500	7.436	7.167	7.500	9.553	
90.0	9.591	8.643	7.731	7.050	9.136	7.893		90.0	8.522	9.700	9.897	11.633	12.100	13.417	
95.0	12.331	12.179	9.635	9.525	11.906	9.661		95.0	9.913	12.091	14.000	17.600	15.600	17.600	
99.0	15.050	15.050	13.763	16.350	14.381	17.325		99.0	13.933	14.418	24.300	24.533	28.600	33.600	
NO. OF								NO. OF							
OBS.	99.	99.	99.	99.	99.	99.		OBS.	128.	128.	128.	128.	128.	128.	

FOR MONTH OF JUNE				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 180 TO 225 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-24.000	-19.500	-19.750	-19.667	-19.500	-19.500		1.0	-11.483	-13.945	-14.121	-14.954	-14.674	-14.966	
5.0	-20.000	-17.500	-18.750	-18.333	-17.500	-17.500		5.0	-8.652	-9.940	-10.604	-11.437	-12.191	-12.328	
10.0	-15.000	-15.000	-17.500	-16.667	-15.000	-15.000		10.0	-6.768	-8.793	-9.311	-9.090	-9.690	-9.690	
25.0	-10.000	-12.000	-14.500	-11.667	-9.444	-12.000		25.0	-3.818	-5.353	-6.913	-5.032	-6.525	-6.525	
50.0	-7.222	-7.000	-12.000	-6.667	-6.667	-7.500		50.0	-0.951	-1.464	-2.454	-1.875	-2.024	-2.024	
75.0	-3.333	-2.000	-8.750	-1.250	-2.500	-2.500		75.0	3.917	3.665	4.526	3.220	3.662	3.693	
90.0	5.000	2.500	-5.000	2.500	2.500	1.667		90.0	8.911	9.738	9.379	6.980	9.056	9.426	
95.0	15.000	10.000	-2.500	3.750	5.000	3.333		95.0	12.781	14.295	13.225	12.477	13.893	13.725	
99.0	19.000	14.000	-0.500	4.750	9.000	4.667		99.0	19.690	22.225	19.890	19.617	19.921	24.450	
NO. OF								NO. OF							
OBS.	20.	20.	20.	20.	20.	20.		OBS.	211.	211.	211.	211.	211.	211.	

TABLE VIC (cont'd)

FOR MONTH OF JUNE		INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JUNE		INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		
		WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT LEVELS		ELAPSED TIME IN HOURS			PERCENT LEVELS		ELAPSED TIME IN HOURS		
12	24	36	48	72	12	24	36	48	72
1.0	-20.500	-25.500	-27.750	-28.875	-27.750	-7.433	-9.144	-9.037	-8.717
5.0	-15.625	-16.500	-20.833	-23.750	-22.917	-4.539	-5.722	-5.187	-4.798
10.0	-11.667	-14.118	-15.000	-16.667	-18.846	-3.784	-4.333	-4.245	-3.881
25.0	-7.262	-10.147	-11.250	-11.618	-14.079	-1.520	-1.927	-1.888	-1.131
50.0	-2.593	-5.217	-5.714	-4.762	-8.056	-7.500	50.0	1.759	2.325
75.0	2.125	2.083	1.250	1.250	-0.377	-1.618	75.0	5.530	6.591
90.0	7.500	8.750	6.667	7.727	10.000	6.429	90.0	9.030	10.333
95.0	12.500	13.500	9.167	9.773	15.625	9.643	95.0	11.300	14.611
99.0	17.750	18.500	17.750	13.875	20.500	20.500	99.0	19.100	26.150
NO. OF OBS.	90.	90.	90.	90.	90.	90.	NO. OF OBS.	154.	154.

FOR MONTH OF JUNE		INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF JUNE		INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		
		WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT LEVELS		ELAPSED TIME IN HOURS			PERCENT LEVELS		ELAPSED TIME IN HOURS		
12	24	36	48	72	12	24	36	48	72
1.0	-19.760	-19.700	-29.400	-28.800	-33.800	-34.400	-13.817	-14.112	-14.454
5.0	-18.800	-18.500	-27.000	-24.500	-24.000	-32.000	-9.271	-9.677	-10.731
10.0	-17.600	-17.000	-23.000	-21.500	-19.000	-24.000	-7.543	-8.417	-8.814
25.0	-10.000	-13.333	-15.000	-15.000	-13.571	-18.333	-3.767	-4.750	-4.735
50.0	-7.000	-8.333	-10.000	-8.125	-9.286	-13.000	50.0	-0.812	0.351
75.0	-3.333	-1.667	-0.	-3.750	-5.000	-9.000	75.0	4.318	5.815
90.0	-0.333	7.667	6.500	1.500	2.667	3.000	90.0	9.000	9.761
95.0	4.000	9.667	9.500	4.500	4.667	7.000	95.0	11.750	14.125
99.0	8.800	13.800	13.800	8.800	8.800	9.400	99.0	15.967	23.950
NO. OF OBS.	24.	24.	24.	24.	24.	24.	NO. OF OBS.	242.	242.

TABLE VIc (cont'd)

FOR MONTH OF JUNE				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 40 TO 50 (M/SEC)					
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)					
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)					
LEVELS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS					
12	24	36	48	60	72			12	24	36	48	60	72
1.0	-19.237	-20.975	-23.390	-25.975	-28.850	-24.765		1.0	-24.300	-24.650	-29.650	-34.767	-39.767
5.0	-13.729	-16.975	-18.729	-19.573	-19.812	-22.288		5.0	-21.500	-23.250	-26.250	-33.833	-38.833
10.0	-10.375	-13.861	-15.375	-17.896	-18.375	-19.625		10.0	-18.000	-21.500	-26.500	-32.667	-37.667
25.0	-6.858	-8.292	-10.529	-13.292	-14.125	-15.312		25.0	-9.667	-17.500	-22.500	-29.167	-36.750
50.0	-2.120	-2.670	-4.662	-4.773	-7.232	-9.891		50.0	-7.500	-11.667	-16.667	-20.000	-22.500
75.0	3.458	4.188	1.691	1.989	-0.524	-1.587		75.0	-5.312	-6.875	-6.250	-7.917	-13.500
90.0	7.980	9.750	8.225	8.406	9.192	5.643		90.0	3.000	-2.000	-2.333	-6.167	-11.000
95.0	9.590	12.482	10.792	12.107	14.250	11.219		95.0	6.500	6.500	-1.167	-5.983	-10.500
99.0	17.317	14.782	17.317	18.983	18.850	16.950		99.0	9.300	9.300	-0.233	-5.117	-10.140
NO. OF								NO. OF					
OBS.	161.	161.	161.	161.	161.	161.		OBS.	14.	14.	14.	14.	14.

FOR MONTH OF JUNE				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 50 TO 60 (M/SEC)					
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)					
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)					
LEVELS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS					
12	24	36	48	60	72			12	24	36	48	60	72
1.0	-19.536	-33.375	-33.375	-33.375	-33.375	-33.375		1.0	-9.100	-8.560	-7.600	-6.200	-8.200
5.0	-17.679	-21.875	-27.917	-24.904	-28.958	-28.958		5.0	-5.500	-4.761	-4.462	-4.300	-4.448
10.0	-15.357	-18.611	-24.062	-23.654	-26.250	-26.250		10.0	-4.256	-3.978	-3.538	-3.100	-3.207
25.0	-10.375	-13.646	-18.646	-19.886	-20.875	-21.827		25.0	-1.744	-1.630	-0.769	0.357	0.517
50.0	-3.542	-5.312	-8.250	-12.500	-14.375	-16.167		50.0	2.019	2.283	4.054	4.643	5.568
75.0	3.523	-0.625	-0.568	-2.250	-7.386	-10.096		75.0	5.833	6.774	9.028	3.583	9.659
90.0	7.708	6.250	4.250	6.500	-0.500	-1.250		90.0	9.433	10.615	13.650	16.917	15.375
95.0	9.063	8.958	7.188	9.750	4.583	2.917		95.0	12.375	13.385	17.250	19.917	19.875
99.0	11.750	16.750	11.750	13.917	13.375	11.750		99.0	18.900	27.800	32.800	37.600	31.400
NO. OF								NO. OF					
OBS.	65.	65.	65.	65.	65.	65.		OBS.	144.	144.	144.	144.	144.

TABLE VIC (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
			WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-12.775	-13.887	-14.191	-15.550	-15.550	1.0	-18.750	-19.687	-28.750	-33.750	-34.375
5.0	-9.155	-9.820	-10.955	-12.125	-11.962	5.0	-14.750	-18.437	-24.583	-29.750	-31.875
10.0	-7.621	-8.040	-8.455	-9.424	-9.387	10.0	-13.500	-16.875	-22.500	-28.500	-29.500
25.0	-4.223	-4.115	-3.991	-5.379	-5.081	25.0	-9.750	-12.750	-18.750	-24.687	-25.750
50.0	-1.216	-0.692	-0.088	1.286	1.296	50.0	-3.929	-6.500	-15.278	-17.917	-20.417
75.0	3.155	4.034	7.500	7.313	10.326	75.0	1.250	-1.042	-7.083	-9.250	-12.812
90.0	7.947	8.500	12.667	12.889	17.000	90.0	8.750	6.250	-1.875	-5.500	-2.500
95.0	10.688	10.786	14.786	17.833	20.688	95.0	11.875	9.375	-0.312	-1.250	3.750
99.0	16.100	17.033	21.100	25.550	31.100	99.0	14.375	13.750	18.750	8.750	13.750
NO. OF						NO. OF					
OBS.	178.	178.	178.	178.	178.	OBS.	25.	25.	25.	25.	25.

FOR MONTH OF JUNE			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72
1.0	-16.650	-21.650	-28.325	-26.650	-28.325
5.0	-12.062	-14.854	-22.750	-22.650	-23.321
10.0	-9.500	-13.458	-18.300	-19.708	-20.929
25.0	-6.544	-9.539	-12.750	-15.521	-17.083
50.0	-3.017	-5.132	-7.639	-10.156	-12.500
75.0	-0.129	-0.486	-1.375	-2.750	-4.821
90.0	6.083	7.750	7.300	6.583	8.833
95.0	8.875	13.250	11.625	11.650	14.417
99.0	16.650	26.650	18.325	14.330	18.883
NO. OF					
OBS.	67.	67.	67.	67.	67.

TABLE VID

June, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				
1.0				-6.494	-4.932	-6.494	-7.290	-8.645	-7.290	-8.645	-7.290	-8.645
5.0				-4.825	-4.502	-4.772	-4.597	-4.817	-4.604	-4.597	-4.604	
10.0				-4.304	-3.964	-4.095	-3.958	-4.119	-3.977	-4.095	-3.977	
25.0				-2.740	-2.351	-2.062	-2.040	-2.023	-2.095	-2.062	-2.095	
50.0				-0.135	0.370	1.104	1.075	1.307	1.160	1.307	1.160	
75.0				3.312	3.315	3.927	4.046	4.415	4.652	4.415	4.652	
90.0				6.129	5.365	6.910	7.198	7.906	8.139	7.906	8.139	
95.0				8.064	7.971	8.647	8.773	9.318	9.394	9.318	9.394	
99.0				9.613	10.483	10.483	10.483	13.064	13.064	13.064	13.064	
NO. OF				NO. OF				NO. OF				
OBS.				271.	271.	271.	271.	271.	271.	271.	271.	
FOR MONTH OF JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				LEVELS 12 24 36 48 72				
1.0				-10.600	-10.600	-13.533	-14.120	-14.450	-13.900	-14.450	-13.900	
5.0				-8.867	-9.433	-9.781	-10.600	-12.250	-9.949	-9.781	-9.949	
10.0				-7.400	-8.700	-9.094	-9.441	-9.875	-9.385	-9.094	-9.385	
25.0				-4.412	-6.500	-7.031	-7.500	-7.812	-7.692	-7.031	-7.692	
50.0				-2.255	-3.333	-3.816	-4.265	-4.474	-4.833	-3.816	-4.833	
75.0				-0.098	-0.513	-0.921	-1.029	-1.579	-1.167	-0.921	-1.167	
90.0				3.588	2.556	2.214	2.583	1.500	3.444	2.214	3.444	
95.0				4.882	3.778	3.766	4.417	7.000	6.333	3.766	6.333	
99.0				8.900	4.756	5.600	10.600	12.600	9.267	5.600	9.267	
NO. OF				NO. OF				NO. OF				
OBS.				88.	88.	88.	88.	88.	88.	88.	88.	
FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 20 (M/SEC)				
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				LEVELS 12 24 36 48 60 72				
1.0				-10.562	-9.877	-13.179	-12.875	-14.354	-14.223	-13.179	-14.223	
5.0				-9.018	-8.386	-9.452	-9.352	-9.618	-9.654	-8.386	-9.654	
10.0				-7.750	-6.773	-6.455	-6.283	-6.956	-6.584	-6.773	-6.584	
25.0				-4.620	-4.107	-5.463	-5.075	-6.371	-5.377	-4.107	-5.377	
50.0				-2.332	-1.759	-2.561	-2.266	-2.983	-2.656	-1.759	-2.656	
75.0				-0.045	1.147	0.280	0.923	-0.025	-0.135	0.280	-0.135	
90.0				3.219	3.892	3.783	3.949	3.697	3.464	3.892	3.697	
95.0				4.328	4.807	4.951	4.957	4.947	4.732	4.807	4.947	
99.0				7.464	9.019	9.203	9.203	9.483	9.019	9.203	9.483	
NO. OF				NO. OF				NO. OF				
OBS.				355.	355.	355.	355.	355.	355.	355.	355.	



TABLE Vid (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)						
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-8.983	-7.821	-6.950	-7.458	-8.475	-8.306	-8.306	1.0	-6.250	-6.125	-6.125	-6.750	-8.125	-6.250	-4.879
5.0	-4.991	-4.739	-4.534	-4.605	-4.718	-4.702	-4.702	5.0	-4.665	-4.750	-4.750	-4.879	-4.650	-4.471	-4.395
10.0	-4.413	-4.256	-3.841	-3.953	-3.898	-3.976	-3.976	10.0	-4.207	-4.214	-4.214	-4.274	-3.900	-3.750	-3.790
25.0	-2.680	-2.809	-1.761	-1.998	-1.438	-1.798	-1.798	25.0	-2.835	-2.607	-2.607	-2.460	-1.650	-1.587	-1.976
50.0	0.248	-0.396	1.442	1.109	1.964	1.631	1.631	50.0	-0.549	0.076	0.076	0.547	1.500	2.019	1.204
75.0	3.682	2.748	4.375	3.976	4.990	4.862	4.862	75.0	2.545	2.917	2.917	3.477	4.179	5.739	4.676
90.0	6.919	4.720	7.634	7.102	8.447	8.220	8.220	90.0	4.554	4.621	4.621	5.833	7.115	8.295	7.794
95.0	8.692	6.823	8.996	8.835	9.602	9.375	9.375	95.0	6.250	6.250	6.250	7.917	8.558	9.148	8.897
99.0	11.188	9.365	11.583	12.438	13.861	13.292	13.292	99.0	9.250	9.250	9.250	9.583	9.712	9.830	9.779
NO. OF	305.	305.	305.	305.	305.	305.	305.	NO. OF	75.	75.	75.	75.	75.	75.	75.
OBS.	149.	149.	149.	149.	149.	149.	149.	OBS.	39.	39.	39.	39.	39.	39.	39.

FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)			JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)						
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-13.137	-9.877	-13.137	-12.517	-12.517	-12.517	-12.517	1.0	-6.050	-4.885	-4.885	-4.885	-4.911	-4.870	-9.025
5.0	-9.384	-8.387	-9.599	-9.305	-9.364	-9.326	-9.326	5.0	-4.762	-4.426	-4.426	-4.426	-4.557	-4.350	-5.125
10.0	-8.054	-6.325	-8.733	-8.141	-8.300	-8.197	-8.197	10.0	-4.275	-3.853	-3.853	-3.853	-4.114	-3.700	-4.269
25.0	-4.663	-4.087	-6.134	-4.856	-5.107	-4.913	-4.913	25.0	-2.812	-2.132	-2.132	-2.132	-2.784	-1.750	-2.019
50.0	-2.276	-1.994	-2.978	-2.468	-2.599	-2.326	-2.326	50.0	-0.375	0.595	0.595	0.595	-0.568	1.500	1.406
75.0	0.265	0.250	-0.239	-0.080	-0.148	0.625	0.625	75.0	3.438	2.917	2.917	3.224	2.788	4.750	4.433
90.0	3.652	3.443	3.293	3.638	3.466	4.350	4.350	90.0	6.750	4.310	4.310	4.763	5.125	8.188	7.563
95.0	4.780	4.507	4.578	4.922	4.750	6.775	6.775	95.0	8.375	4.774	4.774	6.750	7.563	9.406	8.781
99.0	8.758	9.183	8.510	11.275	8.758	9.755	9.755	99.0	9.675	8.050	8.050	9.350	9.512	13.050	9.756
NO. OF	149.	149.	149.	149.	149.	149.	149.	NO. OF	39.	39.	39.	39.	39.	39.	39.
OBS.	149.	149.	149.	149.	149.	149.	149.	OBS.	39.	39.	39.	39.	39.	39.	39.

TABLE VID (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-0.733	-9.240	-0.100	-9.367	-9.030	1.0	-9.767	-12.200	-12.200	-12.200	-17.200
5.0	-4.082	-6.200	-4.743	-6.833	-5.230	5.0	-0.833	-9.100	-9.357	-9.357	-12.750
10.0	-4.324	-4.675	-4.200	-4.742	-4.471	10.0	-7.667	-7.700	-0.357	-0.357	-9.857
25.0	-2.647	-3.250	-2.571	-2.903	-2.794	25.0	-4.565	-4.167	-5.357	-5.357	-7.657
50.0	0.156	-0.075	0.167	0.217	0.033	50.0	-1.522	-0.276	-2.045	-2.292	-4.524
75.0	3.125	2.400	3.333	4.348	4.318	75.0	2.500	2.955	1.923	1.364	-0.278
90.0	4.906	4.680	6.000	6.000	8.000	90.0	6.000	4.664	5.333	5.400	5.333
95.0	7.286	7.200	8.714	9.357	9.357	95.0	8.000	7.200	7.667	8.200	7.667
99.0	9.457	11.200	13.100	13.100	13.100	99.0	9.600	9.400	9.533	12.200	9.533
NO. OF						NO. OF					
OBS.	76.	76.	76.	76.	76.	OBS.	56.	56.	56.	56.	56.

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-7.833	-7.833	-0.375	-7.833	-4.970	1.0	-9.061	-8.793	-9.155	-8.944	-9.155
5.0	-4.698	-4.602	-4.755	-4.593	-4.450	5.0	-5.306	-4.906	-5.775	-4.970	-5.775
10.0	-4.138	-3.864	-4.118	-3.837	-3.800	10.0	-4.494	-4.357	-4.469	-4.407	-4.477
25.0	-2.457	-1.648	-2.206	-1.570	-1.850	25.0	-2.869	-2.711	-2.519	-2.717	-2.537
50.0	0.370	1.500	1.250	1.900	1.892	50.0	-0.160	0.038	0.731	0.129	0.720
75.0	3.380	4.208	5.446	5.268	6.357	75.0	3.427	3.239	3.981	3.772	4.301
90.0	5.714	7.778	8.929	8.750	9.143	90.0	6.479	5.563	7.241	7.135	7.948
95.0	8.036	9.563	10.357	9.911	10.417	95.0	8.240	7.931	8.806	8.760	9.403
99.0	9.693	13.700	14.071	13.917	14.750	99.0	9.648	9.808	10.775	10.775	13.310
NO. OF						NO. OF					
OBS.	130.	130.	130.	130.	130.	OBS.	169.	169.	169.	169.	169.

TABLE VIa (cont'd)

FOR MONTH OF JUNE		INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 16 TO 20 (KM)	INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT	ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72
1.0	-12.000	-14.250	-17.000	-14.500	-14.625	-14.625
5.0	-9.333	-11.250	-13.000	-12.500	-13.125	-13.125
10.0	-8.333	-9.412	10.000	-10.000	-11.250	-11.250
25.0	-5.333	-6.765	-7.857	-8.269	-8.542	-8.333
50.0	-2.407	-3.269	-4.000	-5.385	-5.417	-4.783
75.0	0.769	-0.385	1.154	-1.176	-1.305	-1.522
90.0	4.231	5.000	4.615	4.167	0.833	1.667
95.0	6.250	7.500	7.000	7.500	3.333	4.167
99.0	9.250	9.500	9.400	12.000	7.000	8.500
NO. OF						
OBS.	60.	60.	60.	60.	60.	60.

TABLE VIe

June, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				JUNE				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-4.762	-4.842	-4.864	-9.050	-4.762	-4.683		1.0	-9.688	-9.297	-9.861	-9.771	-10.785	-9.973	
5.0	-3.812	-4.208	-4.321	-5.250	-3.912	-3.417		5.0	-7.313	-6.488	-8.228	-7.523	-8.173	-7.892	
10.0	-2.625	-3.417	-3.643	-0.500	-2.625	-1.833		10.0	-4.863	-4.700	-6.162	-4.941	-5.778	-5.290	
25.0	0.313	-1.042	-1.607	1.146	0.469	1.250		25.0	-3.295	-3.139	-3.471	-3.209	-3.244	-3.251	
50.0	2.292	1.750	1.563	3.125	3.438	4.643		50.0	-0.647	-0.537	-0.335	-0.322	0.044	-0.223	
75.0	4.271	4.125	4.531	5.313	6.875	7.656		75.0	2.824	2.742	3.268	3.163	3.768	3.474	
90.0	6.833	6.833	7.625	8.875	9.250	9.437		90.0	5.220	4.815	6.348	5.922	7.198	6.754	
95.0	8.417	8.417	8.912	10.250	10.250	10.250		95.0	7.729	7.236	8.477	8.117	8.831	8.371	
99.0	9.683	9.683	9.762	14.050	14.050	14.050		99.0	9.736	9.679	11.468	9.873	11.623	10.317	
NO. OF OBS.	19.	19.	19.	19.	19.	19.		NO. OF OBS.	843.	843.	843.	843.	843.	843.	
FOR MONTH OF JUNE				INITIAL WIND SPEED 0 TO 10 (M/SEC)				JUNE				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-7.025	-7.620	-8.678	-4.970	-7.025	-6.033		1.0	-13.750	-11.250	-14.062	-14.250	-18.125	-16.250	
5.0	-4.436	-4.599	-4.655	-4.227	-4.262	-4.258		5.0	-9.883	-9.509	-10.312	-11.250	-14.125	-12.708	
10.0	-3.586	-3.907	-3.238	-3.297	-3.200	-3.267		10.0	-9.297	-8.839	-9.327	-9.537	-12.250	-9.914	
25.0	-1.036	-1.831	0.394	-0.508	0.032	-0.292		25.0	-7.539	-6.830	-7.163	-7.454	-8.911	-7.974	
50.0	2.163	1.359	3.148	2.284	3.797	3.011		50.0	-4.621	-3.819	-3.986	-4.236	-5.887	-4.779	
75.0	5.047	4.248	6.336	4.849	7.382	6.541		75.0	-1.780	-1.215	-1.453	-1.632	-2.834	-2.022	
90.0	8.415	7.525	8.781	6.157	9.462	8.986		90.0	-0.078	1.250	0.337	-0.069	-0.625	-0.368	
95.0	9.538	9.013	9.596	9.324	11.192	9.801		95.0	3.230	3.125	3.036	2.708	0.313	1.563	
99.0	13.300	12.025	13.017	13.275	14.854	14.138		99.0	8.125	4.625	6.250	6.250	4.063	6.250	
NO. OF OBS.	238.	238.	238.	238.	238.	238.		NO. OF OBS.	75.	75.	75.	75.	75.	75.	

TABLE Vie (cont'd)

FOR MONTH OF JUNE			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JUNE			INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.996	-4.920	-4.906	-6.583	-7.950	-4.994	72	1.0	-14.258	-14.110	-14.258	-17.775	-14.595	-14.110	
5.0	-4.393	-4.299	-4.174	-4.364	-4.360	-3.969		5.0	-11.292	-10.550	-11.292	-9.927	-12.977	-10.550	
10.0	-3.640	-3.523	-3.259	-3.465	-3.113	-2.687		10.0	-9.463	-9.152	-9.574	-9.210	-10.955	-9.304	
25.0	-1.379	-1.193	-0.513	-0.768	0.355	0.571		25.0	-6.991	-6.250	-7.610	-7.056	-8.520	-6.920	
50.0	2.031	1.740	2.955	2.591	3.818	3.735		50.0	-3.693	-3.443	-4.451	-3.869	-5.592	-3.777	
75.0	5.347	4.252	6.496	6.013	7.192	7.078		75.0	-1.165	-1.344	-1.738	-1.220	-2.311	-1.410	
90.0	8.194	7.214	8.826	8.664	9.188	9.155		90.0	1.409	-0.085	-0.110	1.409	-0.288	0.063	
95.0	9.144	8.679	9.602	9.547	9.854	9.848		95.0	3.432	2.219	2.958	3.432	1.821	2.844	
99.0	9.903	9.850	12.950	12.950	13.719	13.719		99.0	5.550	4.444	7.775	5.550	4.364	5.550	
NO. OF								NO. OF							
OBS.	205.	205.	205.	205.	205.	205.	205.	OBS.	89.	89.	89.	89.	89.	89.	89.

FOR MONTH OF JUNE			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	LEVELS	12	24	36	48	60	72
	1.0	-9.903	-9.496	-9.717	-9.765	-9.825	-9.585
	5.0	-8.193	-6.907	-8.023	-7.232	-8.263	-7.453
	10.0	-6.057	-4.787	-5.907	-4.834	-6.310	-4.951
	25.0	-3.713	-3.228	-3.613	-3.177	-3.623	-3.115
	50.0	-1.145	-0.631	-0.917	-0.415	-0.666	-0.054
	75.0	2.290	2.638	2.728	2.908	3.068	3.423
	90.0	4.770	4.729	5.613	4.961	6.187	6.392
	95.0	7.271	7.007	8.048	7.512	8.304	8.279
	99.0	9.788	9.633	9.997	9.644	9.997	9.789
NO. OF							
OBS.	906.	906.	906.	906.	906.	906.	906.

TABLE VIIa

July, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMITUDE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-7.700	-6.550	-6.275	-4.879	-7.700	-6.550	1.0	-7.725	-6.294	-9.350	-9.407
5.0	-4.875	-4.529	-4.754	-4.395	-4.618	-4.510	5.0	-4.740	-4.617	-6.750	-7.033
10.0	-4.100	-3.865	-4.169	-3.789	-3.941	-3.820	10.0	-4.276	-4.373	-4.777	-4.811
25.0	-2.375	-1.875	-2.415	-1.974	-1.912	-1.750	25.0	-2.883	-3.044	-3.324	-3.015
50.0	0.448	1.087	0.936	0.968	1.190	1.393	50.0	-0.561	-0.628	-0.904	-0.022
75.0	3.022	3.587	3.616	3.750	3.929	4.221	75.0	2.418	2.274	2.349	2.886
90.0	4.567	5.400	6.368	6.368	6.800	7.800	90.0	4.332	4.452	4.599	6.047
95.0	5.888	7.700	8.184	8.184	8.525	9.525	95.0	4.970	5.985	6.868	8.180
99.0	9.138	9.540	9.637	9.637	9.905	14.525	99.0	10.450	9.197	10.450	9.886
NO. OF OBS.	138.	138.	138.	138.	138.	138.	NO. OF OBS.	273.	273.	273.	273.
FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMITUDE 1 TO 5 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-7.800	-6.840	-6.240	-9.323	-9.120	-6.743	1.0	-13.500	-18.500	-18.500	-18.500
5.0	-4.778	-4.832	-4.779	-6.815	-4.870	-5.600	5.0	-9.500	-9.643	-11.250	-14.167
10.0	-4.370	-4.442	-4.267	-4.885	-4.232	-4.441	10.0	-8.000	-8.571	-9.667	-11.667
25.0	-3.148	-3.274	-2.733	-2.877	-2.319	-2.500	25.0	-4.625	-5.357	-6.167	-8.250
50.0	-1.111	-1.327	-0.174	0.164	0.918	0.794	50.0	-2.750	-2.941	-5.667	-7.391
75.0	1.667	1.321	2.887	3.770	4.375	4.286	75.0	-0.875	-0.735	-2.885	-2.167
90.0	3.867	3.811	4.746	7.036	7.556	7.806	90.0	1.250	2.500	-1.154	-0.667
95.0	4.600	4.642	7.000	6.607	8.778	9.226	95.0	3.125	4.375	-0.577	-0.167
99.0	7.800	8.240	9.708	9.864	9.756	12.800	99.0	4.825	8.500	-0.115	3.500
NO. OF OBS.	176.	176.	176.	176.	176.	176.	NO. OF OBS.	30.	30.	30.	30.

TABLE VII a (Cont'd)

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)					INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					INITIAL DIRECTION 180 TO 225 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-7.928	-6.892	-8.135	-8.757	-9.067	1.0	-4.950	-8.628	-9.085	-9.002	-9.122	-9.390
5.0	-4.770	-4.688	-4.764	-4.899	-5.337	5.0	-4.584	-4.863	-5.427	-5.011	-5.610	-6.951
10.0	-4.326	-4.229	-4.254	-4.381	-4.509	10.0	-4.127	-4.357	-4.522	-4.476	-4.556	-4.814
25.0	-2.994	-2.851	-2.725	-2.826	-2.919	25.0	-2.755	-2.840	-2.939	-2.901	-3.011	-3.261
50.0	-0.774	-0.554	-0.178	-0.236	-0.270	50.0	-0.469	-0.311	-0.300	-0.275	-0.434	-0.672
75.0	2.185	2.601	3.261	3.337	3.461	75.0	2.410	2.719	3.117	3.051	3.104	3.330
90.0	4.198	4.658	6.276	6.557	7.183	90.0	4.229	4.579	5.789	5.378	6.098	7.127
95.0	4.869	7.125	8.730	8.676	8.591	95.0	4.836	6.533	8.228	8.055	8.484	8.987
99.0	9.025	12.270	15.338	14.088	14.270	99.0	8.870	11.610	12.013	12.683	13.610	16.525
NO. OF	373.	373.	373.	373.	373.	NO. OF	439.	439.	439.	439.	439.	439.
OBS.	373.	373.	373.	373.	373.	OBS.	439.	439.	439.	439.	439.	439.

FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 135 TO 180 (DEG)				INITIAL DIRECTION 180 TO 225 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-13.900	-9.878	-9.890	-13.900	-14.450	1.0	-9.845	-14.483	-9.918	-14.483	-14.612	-13.450
5.0	-9.833	-9.389	-9.450	-9.958	-12.250	5.0	-9.225	-12.417	-9.592	-12.417	-13.062	-9.880
10.0	-8.000	-8.778	-8.900	-9.500	-9.889	10.0	-8.450	-9.955	-9.184	-9.969	-11.125	-9.543
25.0	-4.531	-6.944	-7.250	-8.125	-7.187	25.0	-6.125	-7.841	-7.961	-8.516	-9.062	-8.533
50.0	-2.812	-4.167	-4.545	-5.833	-4.000	50.0	-3.036	-4.423	-5.921	-6.094	-7.125	-6.848
75.0	-1.094	-1.875	-2.045	-2.083	-1.944	75.0	-0.268	-1.442	-2.639	-2.875	-5.187	-5.163
90.0	-0.062	-0.500	-0.545	4.000	4.000	90.0	4.875	4.500	-0.056	-0.550	-1.750	-2.214
95.0	2.250	-0.042	-0.045	12.250	14.500	95.0	13.625	16.125	3.625	1.125	-0.458	-1.107
99.0	4.450	3.900	3.900	14.450	18.900	99.0	18.450	19.225	8.450	4.225	3.450	-0.221
NO. OF						NO. OF						
OBS.	22.	22.	22.	22.	22.	OBS.	31.	31.	31.	31.	31.	31.

TABLE VII a (Cont'd)

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMITUDE 1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.761	-6.430	-9.307	-9.188	-9.058	1.0	-8.489	-8.640	-8.954	-9.150	-9.093
5.0	-4.906	-4.820	-6.537	-5.940	-6.901	5.0	-4.823	-4.846	-4.972	-5.750	-5.467
10.0	-4.417	-4.326	-4.710	-4.605	-4.562	10.0	-4.300	-4.265	-4.330	-4.477	-4.487
25.0	-2.951	-2.841	-3.147	-3.062	-3.160	25.0	-2.731	-2.521	-2.406	-2.370	-2.773
50.0	-0.508	-0.368	-0.542	-0.491	-0.623	50.0	-0.115	0.378	0.766	0.644	0.100
75.0	2.520	2.785	2.843	2.676	2.525	75.0	2.731	3.235	3.829	4.010	3.500
90.0	4.430	4.747	4.997	4.660	4.535	90.0	4.445	4.950	6.947	7.737	6.903
95.0	5.510	7.258	7.727	6.789	7.628	95.0	5.143	7.480	8.737	9.526	8.935
99.0	9.435	11.075	9.917	9.733	11.290	99.0	9.029	9.656	11.600	14.550	13.567
NO. OF						NO. OF					
OBS.	471.	471.	471.	471.	471.	OBS.	272.	272.	272.	272.	272.

FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMITUDE 1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTIMITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.696	-13.025	-16.050	-16.050	-18.025	1.0	-13.200	-13.200	-14.100	-14.550	-14.400
5.0	-8.481	-9.675	-12.542	-13.156	-14.114	5.0	-9.692	-9.765	-10.500	-12.750	-13.500
10.0	-6.962	-9.017	-9.864	-10.687	-11.167	10.0	-9.000	-9.235	-9.385	-10.500	-12.000
25.0	-4.233	-7.042	-8.068	-8.507	-8.811	25.0	-6.923	-7.647	-7.308	-8.333	-8.333
50.0	-1.969	-3.697	-5.076	-5.764	-6.402	50.0	-3.750	-5.000	-4.062	-5.333	-5.633
75.0	0.703	-0.993	-1.150	-2.361	-3.207	75.0	-0.937	-1.538	-1.250	-2.333	-2.667
90.0	4.406	2.633	2.346	-0.167	-0.630	90.0	2.000	1.400	1.750	-0.533	-0.929
95.0	7.563	5.063	3.865	2.179	2.825	95.0	3.500	3.200	4.000	0.500	-0.267
99.0	13.025	9.013	6.050	4.436	6.683	99.0	4.700	4.640	6.200	4.100	6.200
NO. OF						NO. OF					
OBS.	79.	79.	79.	79.	79.	OBS.	36.	36.	36.	36.	36.



TABLE VII a (Cont'd)

FOR MONTH OF JULY		INITIAL WIND SPEED U TO 10 (M/SEC)				
ALTITUDE	1 TO 5 (KM)	INITIAL DIRECTION 315 TO 360 (DEG)				
		WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT LEVELS	ELAPSED TIME IN HOURS					
	12	24	36	48	72	
1.0	-8.850	-8.850	-9.281	-9.179	-9.425	
5.0	-4.936	-4.918	-6.406	-5.893	-7.125	
10.0	-4.449	-4.293	-4.676	-4.567	-4.856	
25.0	-2.987	-2.418	-3.079	-2.909	-3.197	
50.0	-0.551	0.570	-0.417	-0.144	-0.433	
75.0	2.318	3.092	2.756	2.725	3.464	
90.0	4.115	4.605	4.716	4.450	6.912	
95.0	4.714	5.893	6.806	5.250	8.603	
99.0	8.083	9.179	9.361	9.850	9.956	
NO. OF OBS.	115.	115.	115.	115.	115.	

TABLE VII b

July, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)		FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTIITUDE 6 TO 10 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		ALTIITUDE 6 TO 10 (KM)		INITIAL DIRECTION 45 TO 90 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS							
LEVELS 12	24	36	48	72	LEVELS 12	24	36	48	60	72		
1.0	-8.615	-9.011	-9.398	-9.231	-9.340	-9.271	1.0	-8.189	-8.981	-8.746	-8.642	-8.913
5.0	-4.845	-5.034	-6.989	-6.153	-6.702	-6.355	5.0	-4.769	-4.990	-4.875	-4.832	-4.949
10.0	-4.266	-4.409	-4.770	-4.551	-4.690	-4.565	10.0	-4.253	-4.450	-4.258	-4.195	-4.307
25.0	-2.611	-2.619	-2.733	-2.627	-2.766	-2.487	25.0	-2.706	-2.831	-2.405	-2.285	-2.442
50.0	0.196	0.383	0.625	0.619	0.528	1.048	50.0	-0.127	-0.132	0.677	0.906	0.811
75.0	3.207	3.502	3.831	4.047	4.375	4.772	75.0	2.870	3.150	3.741	4.114	4.236
90.0	5.063	6.383	7.264	7.859	8.523	9.054	90.0	4.681	5.567	6.974	7.809	7.923
95.0	7.948	8.692	9.188	9.635	10.479	11.981	95.0	6.833	8.283	9.064	9.543	9.490
99.0	11.538	14.038	17.788	21.150	16.150	21.538	99.0	9.938	13.425	16.850	13.642	14.838
NO. OF OBS.	277.	277.	277.	277.	277.	277.	NO. OF OBS.	326.	326.	326.	326.	326.
FOR MONTH OF JULY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		FOR MONTH OF JULY		INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIITUDE 6 TO 10 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		ALTIITUDE 6 TO 10 (KM)		INITIAL DIRECTION 45 TO 90 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS							
LEVELS 12	24	36	48	72	LEVELS 12	24	36	48	60	72		
1.0	-11.350	-13.175	-14.087	-14.594	-14.696	-14.635	1.0	-12.175	-13.117	-14.294	-14.928	-14.294
5.0	-9.221	-9.705	-10.437	-12.972	-13.479	-13.175	5.0	-9.392	-9.573	-11.469	-12.417	-11.125
10.0	-8.147	-9.054	-9.500	-10.944	-11.958	-11.350	10.0	-8.450	-8.681	-9.656	-9.845	-9.578
25.0	-4.968	-7.098	-7.841	-8.508	-8.843	-8.821	25.0	-5.625	-5.927	-7.891	-7.827	-7.917
50.0	-2.628	-4.015	-5.076	-5.565	-5.463	-6.214	50.0	-2.598	-3.026	-4.932	-4.500	-5.147
75.0	-0.288	-1.250	-1.940	-2.050	-1.576	-2.679	75.0	0.417	-0.548	-1.115	-1.361	-1.656
90.0	3.346	1.500	-0.092	5.583	5.438	-0.071	90.0	4.452	3.147	2.417	1.808	1.423
95.0	4.750	3.528	3.350	3.625	7.719	3.350	95.0	6.861	4.809	3.986	3.981	3.596
99.0	11.350	6.350	11.350	8.175	9.544	8.175	99.0	9.372	14.350	7.175	9.875	9.350
NO. OF OBS.	73.	73.	73.	73.	73.	73.	NO. OF OBS.	113.	113.	113.	113.	113.

TABLE VII b (Cont'd)

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS					
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72					
1.0			-8.515	-8.350	-8.858	-8.350	-8.762	-8.350	1.0	-8.787	-8.922	-9.118	-9.394	-9.192
5.0			-4.835	-4.773	-4.923	-4.748	-4.867	-4.727	5.0	-4.921	-4.965	-5.591	-6.369	-5.958
10.0			-4.330	-4.198	-4.304	-4.108	-4.173	-4.033	10.0	-4.472	-4.485	-4.455	-4.787	-4.560
25.0			-2.815	-2.471	-2.448	-2.187	-2.091	-1.951	25.0	-3.125	-3.045	-2.565	-2.969	-2.827
50.0			-0.289	0.505	0.745	0.971	1.418	1.609	50.0	-0.880	-0.644	0.563	0.072	0.058
75.0			2.935	4.075	4.315	4.039	4.988	5.405	75.0	2.269	2.731	3.594	3.587	3.442
90.0			4.924	7.635	7.858	7.477	8.408	8.542	90.0	4.508	4.969	6.320	6.846	6.727
95.0			7.529	9.182	9.259	9.203	9.550	9.588	95.0	6.269	7.583	8.260	8.712	8.932
99.0			9.813	13.358	14.030	13.144	13.769	13.769	99.0	9.254	9.739	9.812	15.150	13.825
NO. OF OBS.			297.	297.	297.	297.	297.	297.	NO. OF OBS.			194.	194.	194.

FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS						
LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72			LEVELS 12 24 36 48 60 72						
1.0			-11.800	-11.800	-13.400	-13.933	-13.400	-11.800	1.0	-9.621	-12.350	-14.470	-14.669	-17.350	-14.621
5.0			-9.083	-9.500	-9.727	-9.955	-9.714	-9.633	5.0	-8.107	-9.515	-12.350	-13.344	-14.250	-13.107
10.0			-7.750	-8.773	-9.000	-9.227	-8.952	-9.100	10.0	-6.214	-8.735	-9.940	-11.687	-13.045	-11.214
25.0			-4.583	-6.591	-6.818	-7.045	-6.667	-7.500	25.0	-4.199	-6.397	-8.350	-8.906	-9.740	-9.023
50.0			-2.361	-3.333	-3.462	-3.600	-3.500	-4.762	50.0	-2.500	-3.482	-5.700	-6.146	-6.979	-6.953
75.0			-0.139	-0.370	-0.385	-0.400	-0.833	-0.952	75.0	-0.801	-1.116	-2.562	-2.961	-3.437	-4.659
90.0			4.300	4.222	4.222	4.750	5.600	4.667	90.0	1.700	1.214	-0.575	-0.868	-0.125	-1.045
95.0			8.000	7.250	9.500	9.667	8.800	9.667	95.0	4.350	3.107	0.583	-0.171	2.350	0.583
99.0			13.400	11.800	16.800	16.800	21.800	13.933	99.0	8.675	4.621	4.117	3.675	4.470	4.117
NO. OF OBS.			64.	64.	64.	64.	64.	64.	NO. OF OBS.			53.	53.	53.	53.

TABLE VII b (Cont'd)

FOR MONTH OF JULY							INITIAL WIND SPEED 0 TO 10 (M/SEC)							FOR MONTH OF JULY							INITIAL WIND SPEED 0 TO 10 (M/SEC)																											
ALTIMITUDE 6 TO 10 (KM)							INITIAL DIRECTION 180 TO 225 (DEG)							ALTIMITUDE 6 TO 10 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)																											
WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS							WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS																											
PERCENT							LEVELS							PERCENT							LEVELS																											
12							24							36							48							60							72													
1.0							-8.012							-9.337							-8.012							-9.337							-9.558							-9.582						
5.0							-4.729							-6.687							-4.759							-6.687							-7.792							-7.908						
10.0							-4.185							-4.717							-4.274							-4.700							-5.583							-5.816						
25.0							-2.551							-2.989							-2.820							-2.865							-3.058							-3.114						
50.0							0.198							-0.109							-0.396							0.231							0.482							0.500						
75.0							3.353							3.355							3.464							3.912							3.969							4.114						
90.0							5.816							6.500							7.275							7.420							7.420							7.938						
95.0							7.908							8.838							9.263							9.010							9.010							9.594						
99.0							9.582							14.017							14.263							12.350							13.325							13.675						
NO. OF							159.							159.							159.							159.							159.													
OBS.							159.							159.							159.							159.							159.													

FOR MONTH OF JULY							INITIAL WIND SPEED 10 TO 20 (M/SEC)							FOR MONTH OF JULY							INITIAL WIND SPEED 10 TO 20 (M/SEC)																											
ALTIMITUDE 6 TO 10 (KM)							INITIAL DIRECTION 180 TO 225 (DEG)							ALTIMITUDE 6 TO 10 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)																											
WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS							WIND SPEED CHANGE VALUES (M/SEC)							ELAPSED TIME IN HOURS																											
PERCENT							LEVELS							PERCENT							LEVELS																											
12							24							36							48							60							72													
1.0							-14.462							-14.462							-14.785							-14.731							-14.805							-14.846						
5.0							-12.312							-12.312							-13.925							-13.656							-14.023							-14.232						
10.0							-9.900							-9.921							-12.850							-12.312							-13.045							-13.464						
25.0							-7.750							-8.224							-9.837							-9.471							-10.114							-11.161						
50.0							-4.306							-5.395							-7.500							-7.404							-8.056							-8.370						
75.0							-1.319							-2.279							-5.163							-5.337							-6.065							-6.033						
90.0							2.125							-0.382							-1.437							-1.083							-4.300							-3.583						
95.0							4.813							1.417							-0.094							1.417							-2.150							-1.792						
99.0							12.850							4.283							3.925							4.283							-0.430							-0.358						
NO. OF							43.							43.							43.							43.							43.													
OBS.							43.							43.							43.							43.							43.													

TABLE VII b (Cont'd)

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.990	-7.790	-8.421	-8.772	-9.079	1.0	-8.923	-9.259	-9.303	-9.436	-9.436	-9.436	-9.436
5.0	-4.565	-4.691	-4.765	-4.878	-5.396	5.0	-4.961	-6.297	-6.515	-7.179	-7.179	-7.179	-7.179
10.0	-4.034	-4.128	-4.122	-4.220	-4.468	10.0	-4.423	-4.626	-4.662	-4.876	-4.876	-4.874	-4.850
25.0	-2.440	-2.436	-2.195	-2.247	-2.724	25.0	-2.807	-2.900	-2.866	-3.245	-3.245	-3.213	-2.875
50.0	0.232	0.463	0.972	1.029	0.236	50.0	-0.114	-0.024	0.156	-0.528	-0.528	-0.444	0.481
75.0	3.080	3.873	4.042	4.279	4.181	75.0	3.224	3.456	3.859	3.851	3.713	3.713	4.279
90.0	4.789	7.980	8.058	8.074	7.953	90.0	5.935	6.603	7.790	7.731	7.952	7.952	8.471
95.0	7.044	10.396	10.396	9.699	9.386	95.0	8.511	8.647	9.702	9.250	9.250	9.863	10.442
99.0	9.644	14.079	14.079	14.244	13.772	99.0	12.630	12.717	14.239	14.538	14.538	16.050	14.088
NO. OF						NO. OF							
OBS.	221.	221.	221.	221.	221.	OBS.	237.	237.	237.	237.	237.	237.	237.

FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-13.875	-14.550	-14.550	-14.625	-18.875	1.0	-13.950	-13.950	-13.950	-14.650	-18.950	-13.950	-14.650
5.0	-9.917	-12.750	-12.750	-13.125	-14.687	5.0	-9.964	-9.950	-13.250	-14.917	-9.969	-13.250	-13.250
10.0	-9.167	-10.500	-10.500	-11.250	-11.875	10.0	-9.214	-8.900	-11.500	-13.167	-9.312	-11.500	-11.500
25.0	-6.917	-7.159	-8.264	-8.750	-8.950	25.0	-6.964	-5.750	-8.393	-8.750	-7.344	-8.125	-8.125
50.0	-3.362	-3.375	-5.139	-6.071	-6.700	50.0	-3.958	-3.125	-4.643	-4.167	-4.167	-4.318	-4.318
75.0	-0.074	-0.562	-1.641	-2.891	-3.625	75.0	-1.771	-0.937	-0.893	-1.250	-1.250	-1.932	-1.932
90.0	4.063	3.214	1.875	-0.781	-0.250	90.0	-0.458	2.250	4.750	2.250	4.500	4.500	-0.500
95.0	6.250	4.821	4.688	-0.078	6.250	95.0	-0.021	4.875	7.375	4.875	7.375	7.375	-0.023
99.0	9.250	8.875	8.875	3.875	9.250	99.0	8.950	8.950	9.475	8.950	8.950	9.475	3.950
NO. OF						NO. OF							
OBS.	45.	45.	45.	45.	45.	OBS.	21.	21.	21.	21.	21.	21.	21.

TABLE VII c

July, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 20 TO 30 (M/SEC)	
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		INITIAL DIRECTION 0 TO 45 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
LEVELS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
12	24	36	48	60	72
1.0	-8.467	-9.080	-9.938	-8.850	-9.014
5.0	-4.767	-5.400	-4.940	-4.862	-5.071
10.0	-4.097	-4.259	-3.937	-3.800	-3.965
25.0	-2.087	-1.824	-0.703	-0.615	-0.696
50.0	1.238	2.468	3.896	3.177	3.608
75.0	4.324	7.083	8.210	7.848	8.052
90.0	8.413	9.956	12.214	11.609	11.781
95.0	9.913	13.000	14.679	14.226	13.938
99.0	18.100	18.733	19.620	20.600	19.457
NO. OF OBS.	276.	276.	276.	276.	276.

FOR MONTH OF JULY		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 30 TO 40 (M/SEC)	
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		INITIAL DIRECTION 45 TO 90 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
LEVELS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
12	24	36	48	60	72
1.0	-12.521	-14.387	-14.916	-14.728	-14.801
5.0	-9.042	-9.761	-12.437	-12.157	-12.926
10.0	-7.435	-8.521	-9.790	-9.694	-10.581
25.0	-4.133	-4.911	-6.832	-6.895	-7.317
50.0	-1.299	-2.094	-2.748	-2.956	-3.088
75.0	2.513	1.426	1.511	3.942	1.227
90.0	5.828	4.763	5.981	4.946	6.823
95.0	8.539	7.967	9.194	9.163	9.621
99.0	13.775	13.775	18.530	18.163	22.521
NO. OF OBS.	347.	347.	347.	347.	347.

TABLE VIIc (cont'd)

FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JULY				INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72				
1.0	-12.425	-12.711	-14.179	-14.470	-14.485	-14.767	1.0	-24.200	-19.600	-19.800	-24.200	-24.600			
5.0	-9.160	-9.348	-9.971	-10.350	-12.425	-11.333	5.0	-21.000	-18.000	-19.000	-21.000	-23.000			
10.0	-7.787	-8.191	-8.990	-9.150	-9.941	-9.372	10.0	-13.500	-16.000	-18.000	-14.625	-18.500			
25.0	-4.438	-4.857	-6.048	-6.416	-6.912	-6.637	25.0	-5.000	-12.500	-15.000	-13.125	-14.375			
50.0	-1.545	-1.914	-2.404	-2.601	-2.576	-2.609	50.0	-2.500	-6.667	-11.000	-10.625	-11.875			
75.0	2.243	2.118	1.522	1.667	2.160	2.153	75.0	0.	-1.250	0.	-5.000	-7.500			
90.0	5.412	6.641	4.880	6.441	6.881	7.600	90.0	3.000	3.500	3.000	-2.000	-2.667			
95.0	8.441	9.282	8.833	9.471	9.333	10.467	95.0	4.000	6.000	4.000	-1.000	-1.333			
99.0	14.200	18.233	17.880	18.133	18.133	18.600	99.0	4.800	9.200	4.800	-0.200	-0.267			
NO. OF								NO. OF							
OBS.	412.	412.	412.	412.	412.	OBS.	16.	16.	16.	16.	16.				

FOR MONTH OF JULY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-22.450	-22.450	-19.362	-18.725	-19.681	1.0	-8.167	-7.250	-8.167	-4.981	-8.625
5.0	-14.031	-14.312	-16.812	-14.788	-18.406	5.0	-4.728	-4.375	-4.432	-4.135	-4.722
10.0	-12.437	-11.125	-14.577	-13.808	-16.812	10.0	-4.130	-3.393	-3.182	-3.077	-3.704
25.0	-9.185	-8.466	-11.635	-10.865	-12.841	25.0	-2.337	-0.446	0.347	0.068	-0.648
50.0	-6.413	-5.568	-6.731	-7.237	-8.068	50.0	0.732	2.660	4.167	3.784	5.270
75.0	-2.159	-1.339	-2.574	-3.365	-5.170	75.0	4.085	6.250	7.905	3.304	8.456
90.0	3.625	4.875	-0.324	-1.423	-1.550	90.0	8.214	10.000	10.500	12.188	13.333
95.0	6.813	8.063	3.625	3.625	-0.275	95.0	10.500	12.750	13.250	13.966	16.786
99.0	9.362	12.450	12.450	8.725	3.725	99.0	14.900	14.950	17.250	24.500	19.929
NO. OF						NO. OF					
OBS.	51.	51.	51.	51.	51.	OBS.	110.	110.	110.	110.	110.

TABLE VII c (Cont'd)

FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JULY				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 90 TO 135 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 135 TO 180 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-14.050	-14.050	-14.050	-14.860	-17.150	-14.050		1.0	-4.954	-6.975	-4.795	-7.950	-4.707	-9.317	
5.0	-10.250	-10.250	-10.250	-10.300	-10.375	-10.250		5.0	-4.268	-4.981	-3.975	-4.417	-3.536	-6.593	
10.0	-6.826	-6.579	-6.875	-6.826	-6.714	-6.579		10.0	-3.536	-4.192	-2.950	-3.278	-2.071	-4.450	
25.0	-5.109	-4.682	-5.312	-5.109	-4.817	-4.514		25.0	-1.339	-1.827	0.069	0.114	1.083	-1.375	
50.0	-2.021	-2.091	-1.932	-1.316	-1.341	-0.556		50.0	1.625	1.833	2.917	4.773	4.500	4.888	
75.0	1.696	1.310	2.614	3.700	4.167	4.712		75.0	4.188	5.375	6.250	8.482	8.977	10.795	
90.0	4.750	5.727	7.357	8.533	9.857	9.105		90.0	7.071	8.450	9.045	11.900	15.900	13.591	
95.0	7.389	8.318	9.393	12.167	13.313	11.438		95.0	8.536	9.475	9.977	13.950	17.950	14.523	
99.0	9.922	12.150	17.150	19.767	18.100	14.288		99.0	9.707	12.950	22.950	17.950	19.590	17.950	
NO. OF								NO. OF							
OBS.	114.	114.	114.	114.	114.	114.		OBS.	41.	41.	41.	41.	41.	41.	

FOR MONTH OF JULY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 90 TO 135 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 135 TO 180 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-16.550	-16.550	-23.550	-23.550	-24.275	-24.275		1.0	-9.780	-14.725	-14.725	-18.900	-19.450	-18.900	
5.0	-13.875	-13.875	-17.750	-18.875	-21.375	-21.375		5.0	-6.900	-13.625	-13.625	-14.875	-17.250	-14.750	
10.0	-10.250	-10.250	-13.500	-15.250	-19.437	-19.357		10.0	-7.800	-12.250	-12.250	-13.500	-14.000	-12.000	
25.0	-4.821	-5.750	-7.750	-11.964	-16.719	-16.250		25.0	-4.792	-9.167	-6.125	-9.687	-5.833	-7.917	
50.0	0.227	-1.389	-1.786	-2.812	-10.500	-11.562		50.0	-2.500	-6.111	-3.636	-6.250	-0.	-3.571	
75.0	3.523	3.958	4.750	4.583	3.438	3.750		75.0	-0.208	-2.500	-1.136	-1.500	2.750	0.625	
90.0	7.750	11.833	10.500	5.100	12.625	12.750		90.0	3.500	-0.143	2.000	4.500	4.400	4.750	
95.0	11.375	14.250	17.750	11.375	14.438	17.750		95.0	4.875	4.500	4.750	7.250	4.950	7.250	
99.0	14.275	18.550	23.550	14.275	23.550	23.550		99.0	13.900	8.900	13.900	9.450	13.900	9.450	
NO. OF								NO. OF							
OBS.	29.	29.	29.	29.	29.	29.		OBS.	22.	22.	22.	22.	22.	22.	



TABLE VII c (Cont'd)

FOR MONTH OF JULY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTIITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.400	-24.700	-24.400	-24.700	-29.400	-24.700	1.0	-13.000	-14.000	-18.000	-18.000
5.0	-17.000	-23.500	-22.000	-23.500	-27.000	-23.500	5.0	-9.583	-10.000	-13.333	-12.500
10.0	-14.000	-22.000	-19.667	-22.000	-24.667	-22.000	10.0	-8.750	-9.286	-10.000	-9.615
25.0	-8.333	-15.000	-16.667	-18.333	-21.667	-18.333	25.0	-6.250	-7.143	-7.857	-7.308
50.0	-2.500	-8.333	-12.500	-12.500	-16.667	-13.333	50.0	-3.158	-3.750	-4.333	-3.667
75.0	6.250	0.	-7.500	-6.667	-12.500	-7.500	75.0	-0.526	-0.625	-1.000	-0.333
90.0	8.500	7.000	-3.000	-1.000	-10.250	-3.000	90.0	3.333	3.333	3.000	3.571
95.0	9.250	8.500	-1.500	2.000	-8.000	-1.500	95.0	5.000	5.000	6.333	5.000
99.0	9.850	9.700	-0.300	4.400	-5.600	-0.300	99.0	9.000	13.000	13.000	9.000
NO. OF OBS.	12.	12.	12.	12.	12.	NO. OF OBS.	40.	40.	40.	40.	40.

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTIITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-4.898	-9.083	-8.625	-9.083	-8.625	-7.250	1.0	-9.331	-9.108	-9.331	-9.406
5.0	-4.491	-5.417	-4.821	-5.417	-4.812	-4.583	5.0	-6.656	-5.542	-6.656	-7.028
10.0	-3.981	-4.342	-4.167	-4.167	-4.125	-3.929	10.0	-4.686	-4.339	-4.693	-4.811
25.0	-2.454	-2.171	-2.202	-1.417	-2.062	-1.964	25.0	-2.820	-2.966	-2.869	-3.028
50.0	0.125	1.447	1.250	2.262	1.447	1.719	50.0	0.403	-0.343	0.259	-0.056
75.0	3.563	5.156	5.139	6.023	5.139	6.625	75.0	4.718	5.078	4.871	5.774
90.0	6.786	10.500	9.722	5.773	9.722	12.500	90.0	8.575	10.250	9.500	5.595
95.0	8.750	13.250	12.813	12.813	12.813	17.083	95.0	9.913	14.708	14.563	13.042
99.0	12.250	22.250	22.250	17.250	17.250	22.250	99.0	4.913	18.930	24.650	22.325
NO. OF OBS.	55.	55.	55.	55.	55.	NO. OF OBS.	107.	107.	107.	107.	107.

TABLE VII c (Cont'd)

FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTIMITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-14.325	-14.494	-15.950	-15.950	-15.950	-15.950		1.0	-8.100	-4.980	-6.860	-9.186	-9.050	-9.186
5.0	-11.625	-12.469	-13.475	-13.614	-13.475	-12.621		5.0	-4.719	-4.329	-4.879	-5.929	-5.250	-5.929
10.0	-9.417	-9.981	-11.450	-11.773	-11.450	-9.977		10.0	-4.125	-3.514	-3.897	-4.267	-3.962	-4.120
25.0	-6.042	-7.644	-8.150	-8.578	-7.798	-7.216		25.0	-2.344	-1.071	-0.948	-1.417	-0.673	-0.700
50.0	-2.643	-3.375	-4.022	-5.086	-3.583	-3.250		50.0	0.857	2.333	3.026	3.704	4.032	3.676
75.0	0.972	3.375	1.458	3.125	-0.208	0.313		75.0	4.929	5.978	7.177	8.359	8.309	8.250
90.0	7.227	8.423	9.938	9.500	6.450	5.900		90.0	8.952	9.696	9.935	13.000	12.800	13.000
95.0	9.068	9.981	12.621	12.107	8.475	9.950		95.0	11.083	12.150	12.944	16.083	16.250	16.625
99.0	12.975	17.975	15.950	14.421	10.950	13.988		99.0	14.883	14.430	19.300	19.883	24.825	27.150
NO. OF								NO. OF						
OBS.	81.	81.	81.	81.	81.	81.		OBS.	114.	114.	114.	114.	114.	114.

FOR MONTH OF JULY				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIMITUDE 11 TO 15 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-18.800	-14.829	-18.800	-19.700	-23.800	-19.700		1.0	-12.500	-13.750	-14.500	-16.750	-14.500	-14.773
5.0	-14.833	-14.143	-14.889	-18.500	-19.000	-18.500		5.0	-9.531	-9.853	-12.500	-14.375	-12.500	-13.864
10.0	-13.833	-13.286	-14.222	-17.000	-14.778	-17.000		10.0	-8.750	-9.118	-10.000	-11.250	-10.000	-12.727
25.0	-10.833	-10.714	-12.222	-13.333	-12.778	-14.167		25.0	-6.406	-6.912	-7.115	-7.045	-8.370	-9.531
50.0	-6.429	-7.500	-8.571	-8.571	-9.167	-11.667		50.0	-3.261	-3.000	-2.812	-3.000	-5.652	-5.625
75.0	-0.	-3.333	-3.333	-3.750	-2.500	-8.000		75.0	-0.543	1.591	1.944	3.313	-1.042	-0.625
90.0	6.000	2.000	2.000	6.000	6.000	3.000		90.0	3.571	5.000	7.500	5.000	7.500	6.667
95.0	8.000	3.500	3.500	8.000	8.000	7.000		95.0	5.833	8.125	11.250	12.500	12.500	8.750
99.0	9.600	4.700	4.700	9.600	9.600	9.400		99.0	9.167	12.500	17.500	16.750	18.750	12.500
NO. OF								NO. OF						
OBS.	24.	24.	24.	24.	24.	24.		OBS.	50.	50.	50.	50.	50.	50.

TABLE VII c (Cont'd)

FOR MONTH OF JULY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72		24	36	48	60	72
1.0	-8.900	-9.144	-9.037	-8.460	-9.037	-4.940		-10.150	-15.150	-14.030	-14.030	-14.515
5.0	-4.934	-5.722	-5.187	-4.693	-5.187	-4.256		-9.465	-9.720	-10.150	-10.150	-12.575
10.0	-4.208	-4.360	-4.000	-3.818	-3.806	-3.400		-8.792	-8.985	-9.190	-9.096	-10.150
25.0	-2.028	-2.050	-0.878	-1.193	-0.081	-0.833		-6.771	-6.780	-6.681	-6.298	-7.543
50.0	1.667	1.837	3.333	3.256	4.750	4.189		-3.017	-2.768	-2.661	-2.965	-3.362
75.0	5.625	6.136	7.557	7.798	8.510	8.611		2.250	2.431	2.279	-0.145	1.319
90.0	8.833	9.836	10.667	11.438	13.167	12.789		7.250	7.409	7.409	4.433	5.591
95.0	9.903	12.409	13.875	13.844	16.650	14.816		8.982	9.614	9.614	7.250	7.795
99.0	18.075	17.300	18.460	19.100	19.730	22.433		12.575	13.788	13.788	15.150	9.559
NO. OF								97.	97.	97.	97.	97.
OBS.	154.	154.	154.	154.	154.	154.		97.	97.	97.	97.	97.

TABLE VII d

July, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data ..

FOR MONTH OF JULY				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF JULY				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMTUE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMTUE 16 TO 20 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				PERCENT				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-8.620	-4.960	-6.275	-9.233	-8.050	-8.275		1.0	-7.668	-7.668	-8.027	-8.491	-7.668	-8.290	
5.0	-4.810	-4.372	-4.685	-6.167	-4.890	-4.678		5.0	-4.595	-4.610	-4.643	-4.710	-4.561	-4.667	
10.0	-4.120	-3.638	-3.935	-4.455	-4.049	-3.911		10.0	-3.687	-3.928	-3.918	-3.849	-3.793	-3.866	
25.0	-2.050	-1.436	-1.685	-2.102	-1.524	-1.611		25.0	-1.761	-1.682	-1.744	-1.267	-1.490	-1.461	
50.0	1.029	1.641	1.557	1.633	2.037	1.754		50.0	1.355	1.150	1.547	1.855	1.768	1.940	
75.0	3.586	4.336	4.385	5.221	5.379	4.781		75.0	4.049	3.715	4.529	4.483	4.657	4.994	
90.0	5.482	7.440	7.750	8.265	8.515	7.935		90.0	7.142	6.041	7.779	7.693	8.116	8.143	
95.0	8.115	8.820	9.188	9.279	9.561	9.048		95.0	8.875	8.143	9.037	9.029	9.412	9.195	
99.0	11.550	9.924	12.700	11.550	13.275	9.939		99.0	12.150	9.825	10.725	11.336	13.412	10.725	
NO. OF								NO. OF							
OBS.	138.	138.	138.	138.	138.	138.		OBS.	513.	513.	513.	513.	513.	513.	

FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF JULY				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMTUE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMTUE 16 TO 20 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				PERCENT				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-14.233	-12.700	-13.850	-12.700	-14.233	-12.700		1.0	-10.478	-9.732	-10.930	-9.961	-13.121	-13.230	
5.0	-11.167	-9.458	-9.906	-9.639	-11.167	-9.705		5.0	-8.876	-8.036	-9.097	-8.861	-9.441	-9.359	
10.0	-9.111	-8.500	-9.187	-9.000	-9.500	-9.182		10.0	-7.433	-5.917	-7.900	-7.486	-8.341	-7.884	
25.0	-5.278	-5.625	-7.031	-7.083	-7.344	-7.614		25.0	-4.376	-3.799	-4.708	-4.394	-5.041	-4.462	
50.0	-2.708	-3.148	-3.529	-3.889	-4.130	-5.000		50.0	-2.005	-1.460	-2.177	-1.850	-2.363	-1.886	
75.0	-0.312	-1.019	-0.147	-3.694	-1.630	-1.406		75.0	0.851	1.530	0.824	1.303	0.828	1.250	
90.0	3.000	1.167	3.556	2.750	-0.130	2.000		90.0	4.151	3.972	4.353	4.169	4.039	4.050	
95.0	4.278	3.083	4.833	4.188	2.833	3.917		95.0	5.969	4.786	6.605	5.602	5.670	4.984	
99.0	7.700	4.617	8.850	7.700	7.700	7.700		99.0	9.360	8.769	9.461	9.302	9.134	9.085	
NO. OF								NO. OF							
OBS.	46.	46.	46.	46.	46.	46.		OBS.	814.	814.	814.	814.	814.	814.	

TABLE VII d(Cont'd)

FOR MONTH OF JULY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-14.800	-14.000	-14.833	-14.667	-19.000	1.0	-10.400	-9.947	-10.400	-9.965	-11.233
5.0	-14.000	-10.000	-14.167	-13.333	-15.000	5.0	-8.557	-8.102	-8.857	-8.760	-8.683
10.0	-13.000	-9.167	-13.333	-11.667	-10.000	10.0	-6.705	-5.796	-7.390	-7.253	-6.889
25.0	-10.000	-6.667	-10.833	-8.333	-12.143	25.0	-3.870	-3.760	-4.205	-4.202	-4.022
50.0	-7.917	-3.500	-8.000	-4.500	-6.667	50.0	-1.154	-1.426	-1.308	-1.549	-1.511
75.0	-5.833	-1.000	-5.500	-2.000	-5.625	75.0	2.444	1.618	2.422	1.703	2.429
90.0	-3.333	2.500	-2.500	-0.500	-1.000	90.0	4.992	4.110	5.220	4.159	4.117
95.0	-1.667	5.000	-1.250	5.000	0.000	95.0	7.947	4.941	7.976	4.978	4.942
99.0	-0.333	9.000	-0.250	9.000	4.000	99.0	12.067	9.120	11.460	9.370	9.337
NO. OF OBS.	20.	20.	20.	20.	20.	NO. OF OBS.	452.	452.	452.	452.	452.

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTIMITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-7.125	-6.550	-8.275	-8.083	-8.562	1.0	-9.283	-8.925	-9.283	-8.925	-8.925
5.0	-4.493	-4.546	-4.655	-4.614	-4.727	5.0	-6.417	-4.964	-6.417	-6.417	-4.946
10.0	-3.716	-3.907	-3.833	-3.808	-3.828	10.0	-4.639	-4.452	-4.618	-4.675	-4.179
25.0	-1.385	-1.991	-1.369	-1.390	-1.133	25.0	-2.847	-2.917	-2.721	-3.062	-1.875
50.0	1.734	0.979	1.917	1.823	2.304	50.0	0.147	-0.357	0.417	-0.375	0.167
75.0	4.430	3.577	4.792	4.605	5.680	75.0	3.309	2.721	3.403	3.558	4.276
90.0	7.939	5.592	8.611	7.782	8.956	90.0	5.700	4.618	5.700	6.929	7.700
95.0	9.452	7.862	9.980	8.996	10.250	95.0	7.850	6.417	7.850	8.464	9.850
99.0	13.432	9.678	13.985	9.968	14.850	99.0	9.570	9.283	9.570	9.693	17.850
NO. OF OBS.	345.	345.	345.	345.	345.	NO. OF OBS.	43.	43.	43.	43.	43.

TABLE VII d (Cont'd)

FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)					FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTIMUDE 16 TO 20 (KM)		INITIAL DIRECTION 180 TO 225 (DEG)					ALTIMUDE 16 TO 20 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS				
PERCENT LEVELS	12	24	36	48	72	PERCENT LEVELS	12	24	36	48	72		
1.0	-4.896	-4.903	-6.550	-4.888	-4.868	1.0	-8.200	-4.850	-8.200	-4.836	-4.850		
5.0	-4.482	-4.517	-4.775	-4.442	-4.341	5.0	-4.750	-4.250	-4.667	-4.182	-4.250		
10.0	-3.964	-4.033	-4.050	-3.885	-3.682	10.0	-4.187	-3.500	-3.917	-3.364	-3.500		
25.0	-2.411	-2.563	-1.675	-2.212	-1.705	25.0	-2.500	-1.250	-1.667	-0.909	-1.250		
50.0	0.227	-0.167	1.250	0.625	1.458	50.0	0.333	2.000	1.786	2.917	4.286		
75.0	3.523	2.596	3.639	3.646	4.479	75.0	3.333	5.000	5.000	7.222	7.857		
90.0	6.375	4.269	6.375	6.375	8.100	90.0	5.867	8.000	8.375	10.500	9.786		
95.0	8.188	4.827	8.188	8.188	9.550	95.0	6.867	9.000	9.500	12.750	10.500		
99.0	9.637	8.550	9.637	9.637	13.550	99.0	13.200	9.800	13.200	14.550	14.100		
NO. OF OBS.	29.	29.	29.	29.	29.	NO. OF OBS.	36.	36.	36.	36.	36.		

FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)					FOR MONTH OF JULY		INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTIMUDE 16 TO 20 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)					ALTIMUDE 16 TO 20 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS				
PERCENT LEVELS	12	24	36	48	72	PERCENT LEVELS	12	24	36	48	72		
1.0	-4.890	-4.890	-4.878	-4.843	-4.843	1.0	-4.890	-4.890	-4.878	-4.843	-4.843		
5.0	-4.450	-4.450	-4.389	-4.214	-4.214	5.0	-4.450	-4.450	-4.389	-4.214	-4.214		
10.0	-3.900	-3.900	-3.778	-3.429	-3.429	10.0	-3.900	-3.900	-3.778	-3.429	-3.429		
25.0	-2.250	-2.250	-1.944	-1.071	-1.071	25.0	-2.250	-2.250	-1.944	-1.071	-1.071		
50.0	0.417	0.500	0.909	1.538	1.667	50.0	0.417	0.500	0.909	1.538	1.667		
75.0	2.708	3.250	3.409	3.654	4.722	75.0	2.708	3.250	3.409	3.654	4.722		
90.0	4.083	4.900	4.909	4.923	7.800	90.0	4.083	4.900	4.909	4.923	7.800		
95.0	4.542	7.250	7.250	7.250	8.900	95.0	4.542	7.250	7.250	7.250	8.900		
99.0	4.908	9.450	9.450	9.450	9.780	99.0	4.908	9.450	9.450	9.780	9.633		
NO. OF OBS.	22.	22.	22.	22.	22.	NO. OF OBS.	22.	22.	22.	22.	22.		

TABLE VII e

July, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF JULY			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	0.163	-4.350	0.217	-4.350	0.325	0.108	1.0	-12.556	-9.954	-13.681	-12.556	-14.091
5.0	0.813	-1.750	1.083	-1.750	1.625	0.542	5.0	-9.379	-9.173	-9.728	-9.411	-9.886
10.0	1.625	0.250	2.167	0.300	3.250	1.083	10.0	-8.328	-8.195	-8.770	-8.413	-9.013
25.0	4.062	1.875	5.179	2.250	5.781	2.708	25.0	-5.175	-5.262	-5.895	-5.421	-6.395
50.0	7.500	4.583	7.500	5.625	7.812	5.357	50.0	-2.695	-2.699	-2.951	-2.581	-3.089
75.0	10.938	8.438	9.821	3.687	9.844	7.679	75.0	-0.311	-0.267	-0.432	0.132	-0.280
90.0	13.375	11.750	12.833	12.833	14.250	9.071	90.0	3.101	3.236	3.081	3.582	3.175
95.0	14.187	13.375	13.917	13.917	16.750	9.536	95.0	4.422	4.557	4.518	4.732	4.445
99.0	14.837	14.675	14.783	14.783	19.350	9.907	99.0	8.545	8.788	9.132	9.265	8.939
NO. OF OBS.	13.	13.	13.	13.	13.		NO. OF OBS.	391.	391.	391.	391.	391.

FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF JULY			INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-8.800	-8.985	-9.039	-8.869	-9.248	-8.958	1.0	-9.019	-8.681	-9.186	-8.681	-9.293
5.0	-4.881	-4.990	-4.948	-4.923	-5.804	-4.970	5.0	-5.096	-4.844	-5.931	-4.832	-6.037
10.0	-4.169	-4.330	-4.153	-4.261	-4.364	-4.231	10.0	-4.414	-4.198	-4.431	-4.136	-4.466
25.0	-2.032	-2.350	-1.767	-2.274	-2.016	-2.015	25.0	-2.621	-2.259	-2.215	-2.050	-2.317
50.0	1.341	0.866	1.719	1.013	1.832	1.461	50.0	0.426	0.901	1.271	1.254	1.264
75.0	4.464	3.875	4.813	4.248	5.780	4.675	75.0	3.890	3.899	4.448	4.309	4.846
90.0	7.865	7.074	8.296	7.737	8.678	8.127	90.0	7.548	6.987	7.850	7.688	8.435
95.0	9.203	8.907	9.519	9.226	9.844	9.380	95.0	9.369	8.694	9.187	9.126	9.669
99.0	12.886	12.693	13.829	12.916	14.270	13.020	99.0	13.615	10.844	12.827	13.063	13.769
NO. OF OBS.	792.	792.	792.	792.	792.		NO. OF OBS.	765.	765.	765.	765.	765.

TABLE VII e (Cont'd)

FOR MONTH OF		JULY		INITIAL WIND SPEED		20 TO 30 (M/SEC)	
ALTITUDE		21 TO 25 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	
1.0	-13.204	-11.856	-13.323	-13.204	-13.802	-14.158	
5.0	-9.578	-9.125	-9.664	-9.511	-9.865	-9.796	
10.0	-8.625	-7.842	-8.031	-8.408	-9.049	-8.798	
25.0	-5.767	-4.626	-6.333	-5.099	-6.599	-5.804	
50.0	-2.873	-2.244	-3.125	-2.625	-3.187	-2.829	
75.0	-0.338	0.310	-0.367	-3.207	-0.207	-0.242	
90.0	3.261	3.534	3.536	3.555	3.438	3.353	
95.0	4.658	4.609	5.170	4.937	4.735	4.676	
99.0	8.881	8.657	9.194	9.124	9.158	8.881	
NO. OF							
OBS.	503.	503.	503.	503.	503.	503.	



TABLE VIII a

August, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		24	36	48	72			LEVELS		24	36	48	72		
1.0		-7.960	-8.867	-9.150	-9.271	-8.867	-8.543	1.0		-4.960	-7.700	-8.686	-8.124	-9.080	-9.080
5.0		-4.708	-4.929	-5.750	-6.357	-4.915	-4.795	5.0		-4.606	-4.743	-4.882	-5.619	-5.400	-5.400
10.0		-4.135	-4.321	-4.417	-4.549	-4.197	-4.141	10.0		-4.163	-4.287	-4.390	-4.406	-4.558	-4.558
25.0		-2.416	-2.500	-2.292	-2.394	-2.042	-2.179	25.0		-2.837	-2.921	-2.914	-3.102	-3.105	-3.105
50.0		0.412	0.511	1.000	1.000	1.236	1.000	50.0		-0.625	-0.644	-0.455	-0.573	-0.684	-0.684
75.0		3.041	3.409	3.833	4.000	4.101	4.000	75.0		2.260	2.444	2.717	2.692	2.742	2.797
90.0		4.619	5.591	6.714	7.194	7.704	7.720	90.0		4.151	4.489	4.717	4.815	4.968	5.432
95.0		6.077	7.909	8.536	8.839	9.593	9.760	95.0		4.781	6.095	6.893	7.345	7.750	7.919
99.0		9.215	9.764	9.993	12.400	13.725	14.350	99.0		9.622	9.600	9.521	9.883	10.400	9.908
NO. OF								NO. OF							
OBS.		204.	204.	204.	204.	204.	204.	OBS.		368.	368.	368.	368.	368.	368.

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		AUGUST		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		24	36	48	72			LEVELS		24	36	48	72		
1.0		-4.949	-7.125	-4.987	-6.167	-8.955	-9.042	1.0		-9.787	-14.150	-14.717	-19.150	-19.150	-19.150
5.0		-4.597	-4.690	-4.594	-4.595	-4.976	-5.208	5.0		-8.937	-10.750	-13.583	-15.750	-15.750	-15.750
10.0		-4.134	-4.215	-4.103	-4.048	-4.429	-4.481	10.0		-7.875	-9.125	-12.875	-13.250	-13.833	-13.833
25.0		-2.776	-2.789	-2.628	-2.405	-2.786	-2.854	25.0		-4.896	-5.937	-9.583	-9.306	-9.886	-9.886
50.0		-0.512	-0.413	-0.171	0.372	-0.048	-0.142	50.0		-3.125	-3.409	-4.062	-6.944	-7.955	-7.955
75.0		2.318	2.639	2.816	3.431	3.285	3.097	75.0		-1.354	-1.477	-1.406	-4.250	-6.023	-6.023
90.0		4.115	4.556	4.632	5.962	5.926	5.217	90.0		-0.292	-0.318	0.750	-1.700	-4.250	-4.250
95.0		4.714	6.167	6.500	8.173	8.056	7.717	95.0		0.750	0.750	2.875	-0.850	-2.125	-2.125
99.0		8.083	9.233	9.567	9.942	9.759	9.717	99.0		4.150	4.150	4.575	-0.170	-0.425	-0.425
NO. OF								NO. OF							
OBS.		230.	230.	230.	230.	230.	230.	OBS.		17.	17.	17.	17.	17.	17.

TABLE VIII a (Cont'd)

FOR MONTH OF AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)					FOR MONTH OF AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.974	-7.907	-6.372	-6.535	-6.372	-6.372	-6.372	1.0	-8.081	-9.192	-9.333	-9.269	-9.192	-9.192	-9.192
5.0	-4.641	-4.731	-4.600	-4.829	-4.788	-4.783	-4.783	5.0	-4.785	-5.961	-6.663	-6.345	-5.961	-5.961	-5.961
10.0	-4.224	-4.215	-4.280	-4.290	-4.237	-4.219	-4.219	10.0	-4.336	-4.627	-4.756	-4.681	-4.615	-4.602	-4.602
25.0	-2.976	-2.667	-2.722	-2.675	-2.585	-2.529	-2.529	25.0	-2.990	-3.161	-3.299	-3.166	-3.100	-3.036	-3.036
50.0	-0.695	-0.086	-0.124	0.020	0.197	0.321	0.321	50.0	-0.746	-0.717	-0.870	-0.641	-0.576	-0.425	-0.425
75.0	1.986	2.721	3.006	3.023	3.410	3.451	3.451	75.0	2.209	2.469	2.539	2.752	3.292	3.346	3.346
90.0	4.081	4.412	4.901	4.824	6.100	6.283	6.283	90.0	4.194	4.801	4.912	4.966	6.821	6.744	6.744
95.0	4.779	4.975	7.685	7.352	8.193	8.725	8.725	95.0	4.856	6.511	7.730	7.617	8.649	8.616	8.616
99.0	8.535	10.117	11.336	10.117	9.867	13.392	13.392	99.0	9.059	9.302	11.163	11.163	12.325	11.163	11.163
NO. OF	293.	293.	293.	293.	293.	293.	293.	NO. OF	307.	307.	307.	307.	307.	307.	307.
OBS.	293.	293.	293.	293.	293.	293.	293.	OBS.	307.	307.	307.	307.	307.	307.	307.

FOR MONTH OF AUGUST			INITIAL WIND SPEED 10 TO 20 (M/SEC)					FOR MONTH OF AUGUST			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)					ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.842	-14.050	-14.050	-14.050	-14.050	-14.683	-14.525	1.0	-9.775	-13.200	-14.400	-14.400	-14.400	-14.700	-14.775
5.0	-9.208	-10.250	-10.250	-10.250	-10.250	-13.417	-12.625	5.0	-8.875	-9.750	-12.000	-12.000	-12.000	-13.500	-13.875
10.0	-6.417	-9.591	9.654	-9.654	-11.833	-10.250	-10.250	10.0	-7.750	-9.187	-9.870	-9.880	-12.000	-12.750	-12.750
25.0	-6.042	-8.295	-6.558	-8.558	-9.125	-9.018	-9.018	25.0	-4.762	-7.500	-6.696	-6.600	-9.444	-9.737	-9.737
50.0	-3.654	-6.136	-6.731	-6.731	-6.750	-7.321	-7.321	50.0	-2.619	-4.667	-6.739	-7.000	-7.778	-7.368	-7.368
75.0	-1.827	-3.125	-4.750	-4.583	-3.958	-5.625	-5.625	75.0	-0.476	-1.667	-4.266	-5.200	-6.111	-5.000	-5.000
90.0	-0.731	-0.750	-1.900	1.250	-1.583	-3.167	-3.167	90.0	3.400	2.000	-0.429	-0.600	-5.111	-2.000	-2.000
95.0	-0.365	0.250	-0.950	2.625	-0.792	-1.583	-1.583	95.0	5.500	7.000	2.000	2.000	2.000	2.000	-1.000
99.0	-0.073	4.050	-0.190	4.525	-0.158	-0.317	-0.317	99.0	9.100	9.400	4.400	4.400	4.400	4.400	-0.200
NO. OF	19.	19.	19.	19.	19.	19.	19.	NO. OF	36.	36.	36.	36.	36.	36.	36.
OBS.	19.	19.	19.	19.	19.	19.	19.	OBS.	36.	36.	36.	36.	36.	36.	36.

TABLE VIII a (Cont'd)

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	12	24	36	48	60	72
1.0	-8.797	-9.302	-9.529	-9.549	-9.508	-9.485	1.0	-7.686	-9.221	-9.383	-9.357	-9.490
5.0	-4.920	-6.508	-7.647	-7.745	-7.540	-7.423	5.0	-4.709	-6.105	-6.917	-6.783	-7.448
10.0	-4.445	-4.727	-5.293	-5.490	-5.080	-4.970	10.0	-4.157	-4.616	-4.796	-4.752	-4.978
25.0	-3.021	-3.283	-3.459	-3.509	-3.441	-3.474	25.0	-2.500	-3.007	-3.175	-3.083	-3.346
50.0	-0.647	-0.878	-0.780	-0.829	-0.813	-0.979	50.0	0.248	-0.326	-0.474	-0.301	-0.625
75.0	2.431	2.509	2.558	2.943	2.875	2.740	75.0	2.872	2.686	3.315	3.402	2.908
90.0	4.435	4.880	4.723	6.245	5.951	6.115	90.0	4.447	4.521	6.763	6.875	5.607
95.0	5.698	7.699	7.302	8.368	8.074	8.370	95.0	4.972	6.067	8.711	8.525	8.250
99.0	9.306	11.392	11.670	10.838	9.772	11.392	99.0	9.246	10.100	12.550	10.067	13.400
NO. OF							NO. OF					
OBS.	433.	433.	433.	433.	433.	433.	OBS.	296.	296.	296.	296.	296.

FOR MONTH OF AUGUST				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT LEVELS	12	24	36	48	60	72	
1.0	-9.879	-18.125	-16.250	-18.125	-18.750	-18.125	
5.0	-9.395	-12.083	-13.281	-14.028	-14.712	-14.327	
10.0	-8.790	-9.643	-10.937	-11.944	-13.269	-12.885	
25.0	-6.976	-8.036	-8.682	-9.031	-9.618	-9.564	
50.0	-4.122	-5.357	-6.149	-6.687	-7.014	-7.384	
75.0	-1.588	-1.750	-2.865	-3.687	-3.882	-5.203	
90.0	-0.068	1.389	-0.521	-0.875	-0.921	-2.031	
95.0	3.250	3.472	1.563	0.313	0.313	-0.859	
99.0	8.125	6.250	6.250	4.063	4.063	1.250	
NO. OF OBS.	75.	75.	75.	75.	75.	75.	

FOR MONTH OF AUGUST				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT LEVELS	12	24	36	48	60	72	
1.0	-9.800	-9.840	-9.800	-14.200	-9.911	-14.200	
5.0	-9.000	-9.200	-9.000	-11.000	-9.556	-11.000	
10.0	-8.000	-8.400	-8.000	-9.500	-9.111	-9.700	
25.0	-5.000	-6.000	-5.000	-7.500	-7.778	-8.500	
50.0	-3.182	-3.636	-3.333	-4.375	-5.556	-6.500	
75.0	-1.364	-1.818	-1.667	-1.875	-2.500	-3.750	
90.0	-0.273	-0.727	-0.667	-0.375	-0.500	-0.750	
95.0	1.000	-0.364	-0.333	1.000	1.000	1.000	
99.0	4.200	-0.073	-0.067	4.200	4.200	4.200	
NO. OF OBS.	16.	16.	16.	16.	16.	16.	

TABLE VIII a (Cont'd)

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		D TO		10 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		315 TO 360		(DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS							
LEVELS	12	24	36	48	60	72			
1.0	-9.050	-8.779	-8.931	-8.575	-9.050	-9.223			
5.0	-5.250	-4.916	-4.969	-4.841	-5.250	-6.114			
10.0	-4.574	-4.451	-4.494	-4.306	-4.413	-4.570			
25.0	-3.224	-3.057	-3.069	-2.703	-2.554	-2.764			
50.0	-0.974	-0.734	-0.694	-0.031	0.475	0.261			
75.0	2.165	2.566	2.701	3.201	3.180	3.451			
90.0	4.455	4.816	4.991	5.559	4.804	6.225			
95.0	6.114	7.150	7.641	8.074	7.096	8.363			
99.0	9.223	9.430	9.778	10.725	9.727	10.725			
NO. OF									
OBS.	171.	171.	171.	171.	171.	171.			

TABLE VIII b

August, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		6 TO 10 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)	
LEVELS		12	24	36	48	60	72	12	24	36	48	60	72
1.0		-8.809	-9.064	-8.908	-9.229	-9.430	-9.515	-8.244	-8.829	-9.174	-9.389	-9.219	-9.297
5.0		-4.922	-5.321	-4.949	-6.147	-7.152	-7.574	-4.760	-4.917	-5.868	-6.946	-6.097	-6.488
10.0		-4.433	-4.455	-4.336	-4.535	-4.833	-5.148	-4.202	-4.351	-4.570	-4.772	-4.589	-4.691
25.0		-2.966	-2.701	-2.500	-2.551	-2.786	-2.930	-2.530	-2.651	-2.936	-2.891	-2.876	-3.082
50.0		-0.522	0.245	0.541	0.815	0.759	0.743	0.275	0.214	-0.213	0.286	-0.020	-0.401
75.0		2.799	3.456	3.491	4.375	4.905	5.260	3.252	3.560	3.838	3.945	3.559	3.599
90.0		4.935	6.258	6.074	6.089	9.395	9.354	5.161	6.653	7.183	7.489	6.931	7.554
95.0		7.479	8.371	8.500	9.544	12.324	12.464	7.670	8.604	8.896	9.085	8.882	9.453
99.0		9.663	10.633	12.975	17.300	17.300	18.380	9.677	11.983	13.650	13.190	13.190	13.994
NO. OF													
OBS.		262.	262.	262.	262.	262.	262.	281.	281.	281.	281.	281.	281.

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		10 TO 20 (M/SEC)		AUGUST		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		6 TO 10 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)	
PERCENT		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)	
LEVELS		12	24	36	48	60	72	12	24	36	48	60	72
1.0		-17.050	-17.050	-17.050	-17.050	-17.050	-18.525	-13.550	-14.130	-14.456	-15.650	-15.650	-15.650
5.0		-9.391	-13.607	-14.025	-14.304	-14.114	-14.635	-9.679	-10.650	-12.281	-13.477	-13.953	-13.804
10.0		-8.469	-11.500	-12.550	-13.250	-12.773	-13.500	-8.643	-9.456	-9.922	-11.500	-12.594	-12.250
25.0		-5.703	-8.466	-9.279	-10.089	-9.607	-10.096	-5.536	-7.537	-8.472	-9.005	-9.448	-9.235
50.0		-2.984	-5.114	-6.442	-7.315	-7.500	-7.500	-2.833	-4.318	-6.056	-6.786	-6.319	-6.761
75.0		-0.605	-1.437	-2.411	-3.977	-5.393	-4.875	-0.417	-1.023	-2.731	-3.988	-3.859	-3.512
90.0		3.188	3.100	1.750	0.125	-1.950	-0.450	3.100	2.100	-0.315	-0.881	-1.022	-0.405
95.0		5.083	6.750	4.208	3.813	-0.475	3.417	4.550	3.550	1.893	0.813	-0.076	3.313
99.0		9.017	17.050	12.050	8.525	3.525	12.050	8.550	4.710	4.379	5.650	10.650	8.550
NO. OF													
OBS.		59.	59.	59.	59.	59.	59.	87.	87.	87.	87.	87.	87.

TABLE VIII b (Cont'd)

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		AUGUST		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		135 TO 180 (DEG)	
PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-6.367	-9.032	-9.359	-8.910	-9.092	-9.162	1.0		-8.955	-8.722	-8.955	-9.281	-9.233	-9.324
5.0		-4.636	-5.458	-6.794	-4.951	-5.458	-5.808	5.0		-4.980	-4.893	-4.974	-6.406	-6.167	-6.618
10.0		-4.138	-4.462	-4.721	-4.352	-4.484	-4.577	10.0		-4.512	-4.402	-4.375	-4.624	-4.608	-4.717
25.0		-2.638	-2.685	-2.820	-2.555	-2.763	-3.005	25.0		-3.110	-2.927	-2.578	-2.769	-2.917	-3.090
50.0		-0.138	0.361	0.380	0.556	0.119	-0.385	50.0		-0.772	-0.470	0.482	0.390	-0.098	-0.377
75.0		2.960	3.645	3.829	4.340	3.363	3.875	75.0		2.406	3.059	3.946	4.123	3.631	3.750
90.0		4.839	6.962	7.152	6.222	6.238	7.824	90.0		4.563	5.962	7.656	7.561	7.059	7.368
95.0		7.250	9.058	8.803	9.736	8.833	9.426	95.0		6.406	8.173	9.453	8.963	8.750	8.882
99.0		9.872	13.183	12.050	14.263	13.820	14.820	99.0		9.281	9.942	14.071	11.167	11.167	11.167
NO. OF		218.	218.	218.	218.	218.	218.	NO. OF		230.	230.	230.	230.	230.	230.
OBS.		218.	218.	218.	218.	218.	218.	OBS.		230.	230.	230.	230.	230.	230.

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		10 TO 20 (M/SEC)		FOR MONTH OF		AUGUST		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		135 TO 180 (DEG)	
PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-13.875	-14.550	-14.250	-13.875	-13.875	-12.750	1.0		-9.872	-14.712	-14.608	-14.617	-14.770	-14.617
5.0		-9.937	-12.750	-11.250	-9.952	-9.937	-9.653	5.0		-9.361	-13.562	-14.042	-13.083	-13.850	-13.083
10.0		-9.375	-10.500	-9.559	-9.519	-9.375	-9.028	10.0		-8.722	-12.125	-13.083	-11.167	-12.700	-11.167
25.0		-7.687	-8.560	-7.574	-8.221	-7.687	-7.153	25.0		-6.806	-9.125	-10.208	-8.750	-9.531	-9.083
50.0		-4.861	-6.023	-4.432	-6.058	-4.868	-4.125	50.0		-3.864	-6.250	-5.417	-6.136	-5.937	-7.167
75.0		-1.736	-2.404	-1.875	-3.083	-1.908	-1.312	75.0		-1.250	-2.969	-2.375	-2.679	-2.344	-5.250
90.0		0.500	0.500	-0.341	-0.833	-0.132	1.250	90.0		1.167	-0.812	-0.650	-0.214	-0.187	1.750
95.0		2.750	2.750	1.875	-0.083	2.188	3.125	95.0		3.083	-0.094	-0.075	2.125	2.125	4.625
99.0		4.550	4.550	7.750	3.875	4.437	4.625	99.0		4.617	3.850	3.850	4.425	4.425	8.850
NO. OF		45.	45.	45.	45.	45.	45.	NO. OF		23.	23.	23.	23.	23.	23.
OBS.		45.	45.	45.	45.	45.	45.	OBS.		23.	23.	23.	23.	23.	23.

TABLE VIII b (Cont'd)

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.150	-9.445	-9.260	-9.146	-9.416	1.0	-19.350	-14.350	-14.350	-14.919	-24.350
5.0	-4.757	-7.225	-6.350	-5.731	-7.079	5.0	-16.750	-11.750	-11.750	-14.594	-21.750
10.0	-4.229	-4.874	-4.617	-4.495	-4.838	10.0	-9.625	-9.700	-9.812	-14.187	-19.625
25.0	-2.643	-2.960	-2.846	-2.665	-3.157	25.0	-7.187	-7.750	-8.594	-12.969	-17.187
50.0	-0.	0.256	0.128	0.427	0.260	50.0	-1.250	-4.500	-6.562	-10.937	-11.250
75.0	2.952	3.814	3.686	3.811	3.864	75.0	6.250	-1.250	-3.750	-7.812	-7.708
90.0	4.723	7.552	7.207	7.379	7.548	90.0	9.500	13.500	-0.500	-5.375	-6.083
95.0	7.107	9.466	9.121	9.293	8.729	95.0	21.750	26.750	1.750	-3.250	-5.542
99.0	11.300	14.817	13.780	13.414	13.983	99.0	24.350	29.350	4.350	-0.650	-10.108
NO. OF						NO. OF					
OBS.	222.	222.	222.	222.	222.	OBS.	13.	13.	13.	13.	13.

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 270 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.725	-13.717	-14.615	-14.704	-18.717	1.0	-8.029	-9.014	-9.425	-9.582	-9.524
5.0	-8.625	-9.823	-13.075	-13.519	-14.717	5.0	-4.736	-5.071	-7.125	-7.909	-7.621
10.0	-7.250	-9.021	-11.150	-12.038	-11.955	10.0	-4.202	-4.481	-4.829	-5.818	-5.241
25.0	-4.309	-6.815	-8.405	-8.992	-9.769	25.0	-2.597	-2.901	-2.857	-3.235	-3.148
50.0	-1.776	-3.017	-5.086	-5.887	-6.204	50.0	0.094	-0.267	0.469	0.176	0.058
75.0	2.054	0.795	-1.094	-1.562	-1.181	75.0	3.349	3.483	4.062	4.235	4.691
90.0	6.500	6.643	6.438	6.438	5.214	90.0	6.032	7.250	8.441	9.057	8.640
95.0	8.250	9.393	8.844	7.984	7.688	95.0	8.258	9.406	11.333	12.400	10.083
99.0	9.650	13.717	31.150	13.075	16.150	99.0	10.400	14.022	17.240	19.050	14.683
NO. OF						NO. OF					
OBS.	77.	77.	77.	77.	77.	OBS.	276.	276.	276.	276.	276.

TABLE VIII b (Cont'd)

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF			AUGUST			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			ALTITUDE 6 TO 10 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-9.841	-14.344	-18.783	-16.350	-16.783	-16.350	-16.350		1.0	-9.778	-14.333	-14.333	-14.500	-18.000	-14.667	-14.750	
5.0	-9.207	-12.719	-14.594	-14.117	-14.536	-14.117	-14.117		5.0	-8.889	-11.667	-11.667	-12.500	-14.167	-13.333	-13.750	
10.0	-8.413	-10.437	-12.312	-12.900	-11.929	-12.900	-12.900		10.0	-7.778	-9.706	-9.706	-10.000	-12.500	-11.667	-12.500	
25.0	-6.033	-8.102	-8.792	-9.583	-8.942	-9.612	-9.612		25.0	-4.773	-7.941	-7.941	-8.696	-8.846	-8.889	-9.333	
50.0	-3.071	-4.750	-5.750	-6.204	-6.603	-6.466	-6.466		50.0	-2.500	-5.000	-5.000	-6.322	-5.000	-6.111	-6.000	
75.0	-0.464	-1.708	-2.135	-2.650	-3.631	-2.434	-2.434		75.0	-0.227	-0.455	-2.000	-1.667	-2.500	-2.500	-2.500	
90.0	3.500	0.583	0.583	-1.460	-1.024	2.125	2.125		90.0	4.167	6.667	6.667	5.000	0.000	0.000	-0.337	
95.0	5.438	3.625	3.625	1.688	-0.155	6.688	6.688		95.0	6.667	10.000	10.000	10.000	10.000	7.500	2.500	
99.0	9.088	11.350	16.350	36.350	8.175	11.350	11.350		99.0	9.333	14.000	18.000	14.000	14.000	13.000	8.000	
NO. OF									NO. OF								
OBS.	73.	73.	73.	73.	73.	73.	73.		OBS.	40.	40.	40.	40.	40.	40.	40.	

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			ALTITUDE 6 TO 10 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-7.600	-8.560	-8.971	-8.892	-8.892	-8.892	-8.892		1.0	-7.870	-9.029	-9.029	-8.706	-8.706	-8.706	-8.336	
5.0	-4.687	-4.832	-4.984	-4.940	-4.932	-4.936	-4.936		5.0	-4.727	-5.146	-5.146	-4.840	-4.838	-4.805	-4.690	
10.0	-4.149	-4.282	-4.393	-4.319	-4.233	-4.275	-4.275		10.0	-4.250	-4.429	-4.429	-4.139	-4.128	-3.949	-3.913	
25.0	-2.537	-2.634	-2.623	-2.457	-2.136	-2.294	-2.294		25.0	-2.818	-2.664	-2.664	-2.033	-1.997	-1.379	-1.583	
50.0	0.160	0.138	0.412	0.781	1.308	1.068	1.068		50.0	-0.430	0.348	0.348	1.346	1.500	2.297	2.078	
75.0	3.040	3.440	4.124	4.531	4.673	4.563	4.563		75.0	2.984	4.035	4.035	4.547	4.926	6.130	6.016	
90.0	4.768	6.333	6.743	9.275	9.641	9.071	9.071		90.0	5.863	7.526	7.526	8.256	9.012	9.490	9.856	
95.0	7.048	8.933	12.333	12.688	13.625	13.000	13.000		95.0	7.990	9.019	9.019	9.677	11.288	12.442	12.783	
99.0	9.790	14.267	19.267	21.400	20.600	18.560	18.560		99.0	9.931	12.783	12.783	13.706	14.873	16.338	16.338	
NO. OF									NO. OF								
OBS.	288.	288.	288.	288.	288.	288.	288.		OBS.	233.	233.	233.	233.	233.	233.	233.	



TABLE VIII b (Cont'd)

FOR MONTH OF		AUGUST		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		315 TO 360 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72
1.0		-14.433	-14.575	-13.300	-14.150	-18.300	-18.300
5.0		-12.167	-12.875	-9.794	-10.750	-9.731	-13.250
10.0		-9.714	-10.750	-9.294	-9.533	-9.077	-9.818
25.0		-6.071	-6.250	-7.794	-7.833	-7.115	-7.500
50.0		-2.812	-2.500	-5.294	-5.000	-3.846	-3.636
75.0		-0.156	1.071	-0.833	-1.458	-0.577	0.500
90.0		6.500	4.714	3.600	2.667	3.600	6.000
95.0		10.750	8.250	5.750	5.750	10.750	8.833
99.0		14.150	18.300	9.150	9.150	14.150	18.300
NO. OF				34.	34.	34.	34.
OBS.		34.		34.	34.	34.	34.

TABLE VIII C

August, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF AUGUST												
ALTITUDE 11 TO 15 (KM)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)						
INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-8.995	-8.564	-8.325	-9.086	-9.162	-8.564	1.0	-19.325	-23.650	-24.325	-24.662	-24.550
5.0	-4.996	-4.769	-4.679	-5.432	-5.812	-4.728	5.0	-16.625	-18.250	-21.625	-23.312	-22.750
10.0	-4.198	-4.008	-3.881	-4.157	-4.221	-3.830	10.0	-14.300	-14.500	-18.250	-21.625	-20.500
25.0	-1.806	-1.723	-1.488	-1.366	-1.322	-1.138	25.0	-10.250	-11.607	-13.281	-17.250	-18.437
50.0	1.677	1.964	2.917	2.773	3.147	3.024	50.0	-4.062	-7.187	-8.929	-12.955	-14.687
75.0	4.741	5.901	7.891	7.417	7.764	7.739	75.0	0.625	-0.937	-3.958	-9.792	-12.083
90.0	8.408	9.407	12.152	11.643	11.643	12.618	90.0	8.933	3.300	-0.583	-6.417	-9.250
95.0	9.730	12.250	14.337	14.036	14.036	15.886	95.0	13.250	4.650	3.250	-5.292	-8.125
99.0	17.475	17.488	19.990	18.990	22.475	19.541	99.0	18.650	8.650	8.650	-1.350	-3.225
NO. OF												
OBS.	201.	201.	201.	201.	201.	201.	OBS.	27.	27.	27.	27.	27.

FOR MONTH OF AUGUST												
ALTITUDE 11 TO 15 (KM)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-13.650	-13.920	-14.724	-14.736	-17.840	-16.400	1.0	-8.317	-9.082	-9.158	-9.369	-9.495
5.0	-9.641	-9.907	-12.667	-12.773	-13.792	-13.607	5.0	-4.727	-5.409	-5.792	-6.844	-7.475
10.0	-8.256	-8.651	-10.095	-10.318	-11.542	-11.679	10.0	-4.053	-4.446	-4.388	-4.731	-4.986
25.0	-4.607	-4.934	-7.091	-7.500	-8.239	-8.231	25.0	-2.033	-2.820	-2.127	-2.788	-2.695
50.0	-1.573	-1.382	-3.062	-3.467	-4.375	-4.155	50.0	1.176	0.515	1.618	0.583	0.849
75.0	3.095	3.667	0.862	3.385	-0.156	-0.352	75.0	4.147	4.228	5.592	4.792	5.929
90.0	7.563	9.080	7.211	7.000	6.588	5.750	90.0	7.633	6.000	9.579	5.344	10.450
95.0	9.250	12.583	10.100	9.571	9.765	9.125	95.0	9.317	9.530	12.300	12.682	12.975
99.0	13.200	19.733	14.420	18.067	17.300	18.067	99.0	13.317	14.150	14.993	18.725	14.995
NO. OF												
OBS.	216.	216.	216.	216.	216.	216.	OBS.	202.	202.	202.	202.	202.

TABLE VIII c (Cont'd)

FOR MONTH OF AUGUST				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMITUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				INITIAL DIRECTION 90 TO 135 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				PERCENT				PERCENT			
1.0 -14.606 -14.203 -17.290 -17.742 -17.290 -17.290				1.0 -8.840 -9.171 -9.275 -9.275 -9.356 -9.171				1.0 -8.840 -9.171 -9.275 -9.275 -9.356 -9.171			
5.0 -9.807 -11.015 -12.862 -13.742 -13.526 -13.779				5.0 -4.923 -5.857 -6.375 -6.375 -6.778 -5.857				5.0 -4.923 -5.857 -6.375 -6.375 -6.778 -5.857			
10.0 -8.780 -9.361 -9.886 -11.483 -11.190 -11.843				10.0 -4.365 -4.521 -4.550 -4.486 -4.581 -4.281				10.0 -4.365 -4.521 -4.550 -4.486 -4.581 -4.281			
25.0 -5.701 -6.788 -7.677 -7.893 -8.166 -8.524				25.0 -2.692 -2.708 -2.375 -2.000 -1.774 -1.562				25.0 -2.692 -2.708 -2.375 -2.000 -1.774 -1.562			
50.0 -2.521 -2.899 -3.899 -3.775 -4.472 -4.911				50.0 0.122 0.417 1.613 2.143 2.432 3.065				50.0 0.122 0.417 1.613 2.143 2.432 3.065			
75.0 0.750 1.162 0.225 -0.387 -0.708 -0.878				75.0 3.659 4.444 6.667 6.607 7.273 7.429				75.0 3.659 4.444 6.667 6.607 7.273 7.429			
90.0 4.445 4.728 4.290 4.329 5.452 4.981				90.0 7.000 8.190 10.636 9.714 11.929 9.914				90.0 7.000 8.190 10.636 9.714 11.929 9.914			
95.0 6.863 7.613 7.150 7.817 8.679 8.956				95.0 8.813 9.371 13.273 12.333 14.000 13.250				95.0 8.813 9.371 13.273 12.333 14.000 13.250			
99.0 9.573 11.613 12.863 13.575 13.779 17.863				99.0 14.200 13.550 17.100 14.911 18.067 22.100				99.0 14.200 13.550 17.100 14.911 18.067 22.100			
NO. OF OBS. 271. 271. 271. 271. 271. 271.				NO. OF OBS. 116. 116. 116. 116. 116. 116.				NO. OF OBS. 116. 116. 116. 116. 116. 116.			

FOR MONTH OF AUGUST				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMITUDE 11 TO 15 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				INITIAL DIRECTION 90 TO 135 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				PERCENT				PERCENT			
1.0 -14.775 -19.437 -23.875 -24.250 -19.750 -22.750				1.0 -16.150 -14.037 -14.358 -14.358 -14.650 -14.519				1.0 -16.150 -14.037 -14.358 -14.358 -14.650 -14.519			
5.0 -13.875 -17.187 -19.792 -21.250 -18.750 -19.432				5.0 -9.823 -10.187 -11.792 -11.792 -11.792 -12.594				5.0 -9.823 -10.187 -11.792 -11.792 -11.792 -12.594			
10.0 -12.750 -14.833 -17.917 -18.750 -17.500 -18.409				10.0 -9.021 -9.260 -9.595 -9.614 -11.500 -10.187				10.0 -9.021 -9.260 -9.595 -9.614 -11.500 -10.187			
25.0 -9.583 -12.583 -13.917 -14.297 -14.338 -15.341				25.0 -6.615 -6.950 -6.845 -6.989 -7.422 -7.187				25.0 -6.615 -6.950 -6.845 -6.989 -7.422 -7.187			
50.0 -5.833 -8.906 -10.167 -10.781 -11.029 -12.375				50.0 -2.870 -3.603 -2.870 -2.981 -2.700 -3.056				50.0 -2.870 -3.603 -2.870 -2.981 -2.700 -3.056			
75.0 -1.875 -5.391 -6.417 -6.354 -6.771 -8.906				75.0 1.103 -0.772 1.250 1.250 2.054 1.375				75.0 1.103 -0.772 1.250 1.250 2.054 1.375			
90.0 1.875 0.833 -1.875 -2.083 -3.214 -4.375				90.0 4.500 3.150 5.214 5.214 7.357 8.071				90.0 4.500 3.150 5.214 5.214 7.357 8.071			
95.0 4.688 4.583 1.250 -0.208 -1.607 -1.562				95.0 7.150 5.375 7.964 7.964 10.188 11.917				95.0 7.150 5.375 7.964 7.964 10.188 11.917			
99.0 8.875 8.875 4.250 3.875 -0.321 12.750				99.0 11.150 16.150 11.150 11.150 11.038 18.075				99.0 11.150 16.150 11.150 11.150 11.038 18.075			
NO. OF OBS. 45. 45. 45. 45. 45. 45.				NO. OF OBS. 77. 77. 77. 77. 77. 77.				NO. OF OBS. 77. 77. 77. 77. 77. 77.			

TABLE VIII c (Cont'd)

FOR MONTH OF AUGUST				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMETER 11 TO 15 (KM)				INITIAL DIRECTION 135 TO 180 (DEG)				INITIAL DIRECTION 160 TO 225 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12				24				36			
1.0				-9.329				-7.650			
5.0				-6.643				-4.742			
10.0				-4.604				-3.767			
25.0				-2.829				-1.417			
50.0				0.337				1.719			
75.0				4.534				5.781			
90.0				8.222				10.333			
95.0				9.528				12.944			
99.0				13.433				15.300			
NO. OF				94.				94.			
OBS.				94.				94.			
FOR MONTH OF AUGUST				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMETER 11 TO 15 (KM)				INITIAL DIRECTION 135 TO 180 (DEG)				INITIAL DIRECTION 160 TO 225 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12				24				36			
1.0				-9.953				-14.042			
5.0				-8.516				-10.208			
10.0				-6.719				-9.113			
25.0				-3.987				-6.331			
50.0				-1.509				-1.985			
75.0				2.344				3.466			
90.0				7.045				7.763			
95.0				9.859				11.250			
99.0				13.850				14.625			
NO. OF				115.				115.			
OBS.				115.				115.			

TABLE VIII c (Cont'd)

FOR MONTH OF AUGUST			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	36	48	60	72	
1.0	-14.617	-19.617	-19.770	-19.712	-19.770	-24.617	-13.590	-14.658	-14.119	-14.359	-14.814
5.0	-13.083	-18.083	-18.850	-18.562	-18.850	-23.083	-9.669	-9.995	-10.594	-11.795	-12.250
10.0	-11.167	-16.167	-17.700	-17.125	-17.700	-21.167	-8.532	-9.245	-9.545	-9.733	-9.838
25.0	-8.036	-12.708	-14.531	-14.271	-14.250	-15.417	-5.121	-6.995	-7.966	-7.909	-8.212
50.0	-4.062	-5.833	-10.937	-11.875	-9.250	-9.687	-2.386	-3.472	-5.336	-4.847	-5.500
75.0	-0.469	1.250	-6.458	-8.958	-6.375	-6.094	0.721	-0.208	-1.058	-1.250	-1.314
90.0	6.167	13.500	-0.750	-6.083	-3.833	-2.167	4.788	4.295	4.300	3.423	5.500
95.0	8.083	19.250	14.250	-5.125	-1.917	-0.250	7.479	8.292	9.125	7.458	9.417
99.0	9.617	23.850	23.850	-1.150	-0.383	8.850	9.829	14.488	17.950	17.650	26.475
NO. OF											
OBS.	23.	23.	23.	23.	23.	23.	141.	141.	141.	141.	141.

FOR MONTH OF AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)					
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	36	48	60	72	
1.0	-7.870	-8.935	-8.935	-9.112	-8.817	-8.935	-19.300	-19.767	-19.650	-19.883	-24.300
5.0	-4.686	-4.961	-4.958	-5.562	-4.885	-4.947	-16.500	-18.833	-18.250	-19.417	-21.500
10.0	-4.094	-4.327	-4.276	-4.285	-4.146	-4.074	-14.500	-17.667	-16.500	-18.833	-19.600
25.0	-2.319	-2.426	-2.228	-1.827	-1.927	-1.455	-11.875	-14.167	-13.750	-17.083	-17.500
50.0	0.767	0.893	1.423	2.341	2.277	2.958	-7.500	-8.333	-10.833	-13.333	-13.333
75.0	4.317	4.696	5.912	7.409	7.844	8.125	-2.500	-1.250	-5.833	-8.125	-8.125
90.0	7.782	9.074	10.500	12.972	12.625	12.534	1.500	4.000	-1.000	-5.500	-5.500
95.0	9.147	11.977	13.632	16.396	14.527	14.371	3.250	6.500	16.500	1.500	-3.500
99.0	12.338	18.117	18.870	19.946	19.892	19.058	4.650	9.300	19.300	4.300	-0.700
NO. OF											
OBS.	213.	213.	213.	213.	213.	213.	14.	14.	14.	14.	14.

TABLE VIII c (Cont'd)

FOR MONTH OF		AUGUST		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 0 TO 10 (M/SEC)		FOR MONTH OF		AUGUST		INITIAL WIND SPEED 0 TO 10 (M/SEC)		INITIAL WIND SPEED 0 TO 10 (M/SEC)	
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)		ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)		INITIAL DIRECTION 315 TO 360 (DEG)		INITIAL DIRECTION 315 TO 360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS		24	36	48	72	60	72	LEVELS		12	24	36	48	60	72
1.0		-6.110	-6.110	-6.425	-6.110	-6.650	-6.650	1.0		-6.608	-6.330	-7.912	-6.330	-7.217	-6.807
5.0		-4.658	-4.678	-4.655	-4.610	-4.750	-4.504	5.0		-4.760	-4.672	-4.537	-4.581	-4.378	-4.835
10.0		-3.931	-3.993	-3.710	-3.761	-3.786	-3.777	10.0		-3.908	-3.853	-3.649	-3.537	-3.407	-3.817
25.0		-1.750	-1.938	-0.875	-1.294	-0.893	-1.596	25.0		-1.352	-1.357	-0.984	-0.408	-0.494	-0.762
50.0		1.458	1.602	2.831	2.802	3.565	2.454	50.0		1.804	2.218	3.693	3.832	3.233	3.008
75.0		4.271	5.481	6.972	7.417	8.528	7.409	75.0		4.446	6.036	8.361	8.323	8.125	7.852
90.0		7.439	9.115	10.393	11.594	12.796	11.614	90.0		8.019	9.614	12.341	12.354	13.075	12.974
95.0		8.871	11.821	13.768	14.547	14.546	13.761	95.0		9.565	12.173	14.239	14.094	15.650	15.484
99.0		10.275	16.110	26.517	20.275	20.550	20.550	99.0		13.608	14.742	16.330	17.913	27.217	20.825
NO. OF								NO. OF							
OBS.		189.	189.	189.	189.	189.	189.	OBS.		167.	167.	167.	167.	167.	167.

FOR MONTH OF		AUGUST		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)		FOR MONTH OF		AUGUST		INITIAL WIND SPEED 10 TO 20 (M/SEC)		INITIAL WIND SPEED 10 TO 20 (M/SEC)	
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)		INITIAL DIRECTION 270 TO 315 (DEG)		ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)		INITIAL DIRECTION 315 TO 360 (DEG)		INITIAL DIRECTION 315 TO 360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
LEVELS		24	36	48	72	60	72	LEVELS		12	24	36	48	60	72
1.0		-9.787	-11.600	-9.738	-11.600	-14.150	-14.320	1.0		-13.700	-14.071	-14.409	-14.864	-14.850	-16.750
5.0		-8.937	-9.143	-8.692	-9.400	-10.750	-11.600	5.0		-9.712	-10.357	-12.045	-12.500	-12.250	-12.187
10.0		-7.875	-7.929	-7.385	-8.550	-8.727	-9.437	10.0		-8.462	-8.929	-9.677	-9.668	-9.706	-9.464
25.0		-4.839	-4.687	-4.355	-6.000	-4.697	-6.250	25.0		-4.858	-5.446	-6.532	-7.303	-6.838	-5.982
50.0		-2.097	-1.833	-1.613	-2.500	-2.121	-2.969	50.0		-1.792	-2.273	-2.982	-3.026	-2.619	-1.707
75.0		1.429	2.143	2.692	2.222	1.000	-0.312	75.0		2.250	1.389	-0.132	1.696	2.386	3.304
90.0		5.167	6.571	7.625	5.333	4.400	3.727	90.0		6.071	5.000	5.000	5.625	7.857	7.632
95.0		8.000	9.000	9.750	12.167	6.600	6.000	95.0		8.393	7.955	7.955	9.688	10.417	9.342
99.0		11.600	16.600	13.867	14.433	9.320	11.600	99.0		11.750	13.500	13.500	21.750	14.750	13.375
NO. OF								NO. OF							
OBS.		68.	68.	68.	68.	68.	68.	OBS.		130.	130.	130.	130.	130.	130.

TABLE VIII d

August, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF				INITIAL WIND SPEED				INITIAL WIND SPEED				INITIAL WIND SPEED			
AUGUST				0 TO 10 (M/SEC)				0 TO 45 (DEG)				0 TO 90 (DEG)			
ALTIMTUE 16 TO 20 (KM)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS				12				12				12			
1.0				-8.740				-8.740				-8.740			
5.0				-4.898				-4.898				-4.898			
10.0				-4.296				-4.296				-4.296			
25.0				-2.546				-2.546				-2.546			
50.0				0.377				0.377				0.377			
75.0				3.349				3.349				3.349			
90.0				5.500				5.500				5.500			
95.0				7.750				7.750				7.750			
99.0				9.350				9.350				9.350			
NO. OF				126.				126.				126.			
OBS.				126.				126.				126.			
FOR MONTH OF				AUGUST				AUGUST				AUGUST			
ALTIMTUE 16 TO 20 (KM)				INITIAL WIND SPEED				INITIAL WIND SPEED				INITIAL WIND SPEED			
10 TO 20 (DEG)				0 TO 45 (DEG)				0 TO 45 (DEG)				0 TO 45 (DEG)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS				12				12				12			
1.0				-9.893				-9.893				-9.893			
5.0				-9.417				-9.417				-9.417			
10.0				-8.833				-8.833				-8.833			
25.0				-7.083				-7.083				-7.083			
50.0				-3.929				-3.929				-3.929			
75.0				-0.179				-0.179				-0.179			
90.0				4.833				4.833				4.833			
95.0				7.375				7.375				7.375			
99.0				9.475				9.475				9.475			
NO. OF				21.				21.				21.			
OBS.				21.				21.				21.			

TABLE VIII d (Cont'd)

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)				
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-8.744	-7.767	-8.683	-8.964	-8.818	-9.162	1.0	-9.921	-14.725	-19.450	-14.450	-19.725	-14.725
5.0	-4.871	-4.695	-4.925	-4.831	-4.697	-5.812	5.0	-9.607	-13.625	-17.250	-12.250	-16.625	-13.625
10.0	-4.239	-4.143	-4.207	-4.272	-4.232	-4.467	10.0	-9.214	-12.250	-14.750	-9.917	-17.250	-12.250
25.0	-2.343	-2.486	-2.054	-2.597	-2.235	-2.484	25.0	-8.036	-9.250	-10.625	-8.342	-14.062	-9.375
50.0	0.793	0.291	1.222	0.220	1.019	0.791	50.0	-6.071	-6.500	-7.917	-6.250	-10.625	-7.083
75.0	3.857	3.212	4.077	3.381	4.120	3.972	75.0	-3.437	-3.437	-5.625	-3.437	-7.187	-4.583
90.0	7.000	4.965	7.106	5.957	7.338	7.106	90.0	-1.375	-1.375	-2.750	-1.375	-5.125	-1.833
95.0	8.763	7.554	8.629	8.141	8.816	8.629	95.0	-0.687	-0.687	-1.375	-0.687	-2.750	-0.917
99.0	11.650	9.727	9.847	9.889	9.999	9.847	99.0	-0.137	-0.137	-0.275	-0.137	-0.550	-0.183
NO. OF							NO. OF						
OBS.	402.	402.	402.	402.	402.	402.	OBS.	11.	11.	11.	11.	11.	11.

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-9.900	-9.680	-11.233	-11.233	-12.945	-12.567	1.0	-5.850	-7.925	-7.925	-7.925	-9.407	-9.308	-7.925	
5.0	-8.711	-8.036	-9.012	-8.723	-9.356	-8.886	5.0	-4.650	-4.766	-4.766	-4.717	-7.036	-6.542	-4.701	
10.0	-7.224	-5.982	-7.667	-6.985	-8.100	-7.271	10.0	-4.189	-4.315	-4.315	-4.171	-4.819	-4.689	-4.125	
25.0	-4.154	-3.920	-4.428	-4.121	-4.681	-4.234	25.0	-2.806	-2.962	-2.962	-2.533	-3.090	-3.007	-2.396	
50.0	-1.343	-1.780	-1.617	-1.757	-1.676	-1.830	50.0	-0.500	-0.707	-0.707	0.214	-0.208	-0.203	0.486	
75.0	2.185	0.792	2.069	1.169	1.969	1.063	75.0	2.462	2.298	2.298	3.179	3.008	3.105	3.368	
90.0	4.696	3.617	4.991	3.903	4.638	3.732	90.0	4.348	4.306	4.306	4.957	4.953	5.389	5.389	
95.0	7.000	4.558	7.667	4.815	6.914	4.622	95.0	4.977	4.976	4.976	7.406	7.406	7.694	7.694	
99.0	9.511	8.740	9.819	9.213	9.497	8.533	99.0	8.963	8.963	8.963	9.481	9.481	9.539	9.539	
NO. OF							NO. OF								
OBS.	452.	452.	452.	452.	452.	452.	OBS.	83.	83.	83.	83.	83.	83.	83.	83.



TABLE VIII d (Cont'd)

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			ALTITUDE 16 TO 20 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-4.907	-4.929	-9.075	-8.150	-9.383	-9.537	-9.537		1.0	-4.903	-4.891	-8.250	-8.250	-8.250	-4.912	-8.250	
5.0	-4.537	-4.644	-5.375	-4.823	-6.917	-7.687	-7.687		5.0	-4.514	-4.453	-4.792	-4.779	-4.779	-4.562	-4.712	
10.0	-4.075	-4.288	-4.575	-4.437	-4.806	-5.375	-5.375		10.0	-4.028	-3.906	-4.306	-4.265	-4.265	-4.125	-4.038	
25.0	-2.687	-3.221	-3.187	-3.281	-3.264	-3.125	-3.125		25.0	-2.569	-2.266	-2.647	-2.721	-2.721	-2.812	-2.019	
50.0	-0.375	-1.442	-0.875	-1.354	-0.694	0.156	0.156		50.0	-0.139	0.441	-0.417	-0.147	-0.147	-0.625	1.094	
75.0	2.422	1.094	2.614	1.375	3.068	3.047	3.047		75.0	2.750	3.015	3.021	3.173	3.173	2.404	3.828	
90.0	4.156	4.563	5.375	4.150	6.300	4.781	4.781		90.0	4.500	4.559	5.625	5.625	5.625	4.423	6.500	
95.0	4.734	6.917	7.688	5.375	8.150	6.917	6.917		95.0	5.625	5.625	7.813	7.813	7.813	5.625	8.250	
99.0	8.150	9.383	9.538	9.075	9.630	9.383	9.383		99.0	9.125	9.125	9.562	9.562	9.562	9.125	9.650	
NO. OF									NO. OF								
OBS.	37.	37.	37.	37.	37.	37.	37.		OBS.	35.	35.	35.	35.	35.	35.	35.	

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			AUGUST			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			ALTITUDE 16 TO 20 (KM)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	60	72		PERCENT	LEVELS	12	24	36	48	60	72	
1.0	-8.800	-4.908	-9.600	-8.800	-9.400	-9.400	-9.400		1.0	-4.900	-4.905	-4.910	-8.200	-8.200	-9.100	-9.100	
5.0	-4.923	-4.538	-8.000	-4.909	-7.000	-7.000	-7.000		5.0	-4.500	-4.526	-4.550	-4.789	-4.789	-5.500	-5.500	
10.0	-4.462	-4.077	-6.000	-4.364	-4.833	-4.714	-4.714		10.0	-4.000	-4.033	-4.100	-4.316	-4.316	-4.500	-4.579	
25.0	-3.077	-2.692	-2.857	-2.727	-3.333	-2.143	-2.143		25.0	-2.500	-2.632	-2.750	-2.895	-2.895	-2.812	-3.158	
50.0	-0.769	-0.385	0.909	-0.	-0.833	1.364	1.364		50.0	-0.	-0.263	-0.500	-0.526	-0.526	-0.	-0.789	
75.0	2.500	2.778	3.636	3.750	2.857	4.091	4.091		75.0	2.647	2.857	2.917	2.917	2.917	4.091	3.750	
90.0	4.750	4.778	6.000	7.000	6.000	7.000	7.000		90.0	4.235	4.786	5.500	5.500	5.500	7.833	7.833	
95.0	7.000	7.000	8.000	8.500	8.000	8.500	8.500		95.0	4.765	7.000	7.750	7.750	7.750	9.333	9.333	
99.0	9.400	9.400	9.600	9.700	9.600	9.600	9.700		99.0	8.200	9.400	9.550	9.550	9.550	13.200	13.200	
NO. OF									NO. OF								
OBS.	24.	24.	24.	24.	24.	24.	24.		OBS.	36.	36.	36.	36.	36.	36.	36.	

TABLE VIII e

August, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF AUGUST				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)				
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	0.100	-4.500	0.167	0.167	0.100	1.0	-13.536	-13.414	-14.237	-12.317	-14.416	-13.927
5.0	0.500	-2.500	0.833	0.833	0.500	5.0	-9.673	-9.512	-9.689	-9.468	-11.028	-9.945
10.0	1.000	0.000	1.667	1.667	1.000	10.0	-8.641	-8.542	-8.867	-8.621	-9.435	-9.140
25.0	2.500	2.500	4.167	4.167	2.500	25.0	-5.545	-5.633	-6.403	-6.079	-7.199	-6.725
50.0	5.000	6.000	7.000	6.667	5.000	50.0	-2.966	-2.879	-3.290	-3.113	-3.787	-3.535
75.0	7.500	8.500	9.500	8.750	8.125	75.0	-0.692	-0.439	-0.694	-0.582	-0.827	-0.971
90.0	9.000	10.000	12.500	10.000	10.000	90.0	2.429	3.250	3.116	2.980	3.146	2.405
95.0	9.500	12.500	13.750	12.500	12.500	95.0	4.071	4.798	4.988	4.590	5.409	4.581
99.0	9.900	14.500	14.750	14.500	14.500	99.0	8.150	9.146	11.950	12.967	13.475	11.300
NO. OF OBS.	10.	10.	10.	10.	10.	NO. OF OBS.	322.	322.	322.	322.	322.	322.

FOR MONTH OF AUGUST				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				INITIAL DIRECTION 90 TO 135 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		PERCENT		ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	
1.0	-9.144	-9.109	-9.499	-9.347	-9.416	1.0	0.150	-4.400	-4.400	-4.400	0.600	0.120
5.0	-4.937	-5.543	-6.099	-6.737	-6.708	5.0	0.750	-2.000	-2.000	-2.000	3.000	0.600
10.0	-4.286	-4.498	-4.493	-4.712	-4.438	10.0	1.500	0.200	0.333	0.500	5.143	1.200
25.0	-2.335	-2.785	-2.439	-2.866	-2.580	25.0	3.750	2.000	3.333	5.000	6.429	3.000
50.0	0.888	0.080	0.938	0.239	0.855	50.0	6.429	5.000	6.250	6.875	8.571	6.250
75.0	4.039	3.308	4.201	3.740	4.214	75.0	8.571	7.500	8.125	9.750	11.250	10.000
90.0	7.472	5.979	7.704	7.111	7.676	90.0	9.857	9.000	9.250	5.875	13.500	13.000
95.0	9.149	8.553	9.227	8.868	9.138	95.0	12.000	9.500	9.625	12.000	14.250	14.000
99.0	13.341	13.104	13.341	12.845	12.563	99.0	14.400	9.900	9.925	14.400	14.850	14.800
NO. OF OBS.	731.	731.	731.	731.	731.	NO. OF OBS.	12.	12.	12.	12.	12.	12.

TABLE VIII e (Cont'd)

FOR MONTH OF			AUGUST			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)				
ALTITUDE 21 TO 25 (KM)			25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS			24			36			48				
1.0			-9.360	-8.787	-9.205	-9.044	-9.402	-9.315	-13.188	-13.976	-13.615	-14.548	
5.0			-6.799	-4.890	-6.026	-4.970	-5.856	-6.242	-9.451	-9.979	-9.771	-11.408	
10.0			-4.707	-4.264	-4.525	-4.321	-4.473	-4.540	-8.430	-8.224	-8.948	-9.531	
25.0			-2.703	-2.385	-2.604	-2.373	-2.514	-2.500	-5.359	-4.837	-6.299	-6.477	
50.0			0.630	0.711	0.650	0.814	0.779	0.859	-2.765	-2.640	-3.122	-3.276	
75.0			3.933	3.689	4.131	3.839	4.169	4.106	-0.362	-0.443	-0.506	-1.129	
90.0			7.200	6.533	7.623	6.930	7.656	7.527	3.006	2.850	2.957	3.118	
95.0			8.790	8.454	9.120	8.717	9.153	9.084	4.344	4.296	4.410	4.753	
99.0			10.809	9.991	12.717	11.454	13.369	12.717	9.050	9.050	8.318	9.024	
NO. OF			922.			922.			471.			471.	
OBS.			922.			922.			471.			471.	

TABLE IX a

September, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial...  
Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMITUDE 1 TO 5 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMITUDE 1 TO 5 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-8.225	-6.225	-6.709	-6.709	-6.709	-6.709		1.0	-9.057	-6.847	-9.231	-9.308	-9.424	-9.231	
5.0	-4.769	-4.723	-4.870	-4.864	-4.869	-4.862		5.0	-5.284	-4.934	-6.157	-6.542	-7.118	-6.157	
10.0	-4.239	-4.089	-4.293	-4.263	-4.287	-4.250		10.0	-4.533	-4.432	-4.616	-4.684	-4.843	-4.628	
25.0	-2.649	-2.187	-2.361	-2.458	-2.541	-2.414		25.0	-3.044	-2.929	-2.970	-2.974	-3.064	-3.032	
50.0	-0.	0.859	0.396	0.657	0.474	0.781		50.0	-0.562	-0.423	-0.225	-0.124	-0.100	-0.372	
75.0	2.934	3.633	3.911	4.242	4.211	4.479		75.0	2.623	2.764	3.196	3.286	3.298	3.306	
90.0	4.694	6.118	7.191	7.816	8.000	8.019		90.0	4.657	4.760	5.966	6.250	6.221	6.833	
95.0	6.819	8.206	8.702	9.265	9.543	9.333		95.0	6.653	7.137	8.324	8.720	8.634	9.139	
99.0	9.324	9.876	9.911	12.971	13.978	12.971		99.0	9.331	9.815	11.850	14.179	13.464	14.023	
NO. OF								NO. OF							
OBS.	284.	284.	284.	284.	284.	284.		OBS.	415.	415.	415.	415.	415.	415.	

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMITUDE 1 TO 5 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMITUDE 1 TO 5 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-9.683	-9.762	-9.921	-14.525	-14.810	-19.050		1.0	-11.850	-13.950	-16.650	-18.950	-18.950	-18.950	
5.0	-8.417	-8.812	-9.604	-12.625	-14.050	-15.250		5.0	-8.925	-9.932	-12.312	-14.812	-14.750	-14.850	
10.0	-6.833	-7.625	-9.208	-10.250	-13.100	-14.250		10.0	-7.350	-8.500	-9.675	-10.875	-9.932	-11.700	
25.0	-4.271	-4.687	-8.021	-9.018	-10.250	-11.875		25.0	-4.375	-4.757	-7.312	-7.697	-7.784	-8.155	
50.0	-2.292	-2.708	-6.042	-7.321	-7.955	-7.500		50.0	-2.303	-2.569	-3.646	-3.900	-4.239	-4.405	
75.0	-0.312	-0.729	-3.125	-5.625	-5.795	-2.750		75.0	-0.230	-0.382	-0.365	-0.750	-0.815	-0.655	
90.0	2.625	1.833	-0.750	-3.167	-2.250	0.500		90.0	3.208	4.188	4.278	3.563	3.167	4.188	
95.0	3.813	3.417	0.250	-1.583	0.250	5.250		95.0	4.521	9.625	8.083	6.417	4.917	6.850	
99.0	4.762	4.683	4.050	-0.317	4.050	9.050		99.0	8.425	16.850	21.850	11.850	8.950	9.370	
NO. OF								NO. OF							
OBS.	19.	19.	19.	19.	19.	19.		OBS.	63.	63.	63.	63.	63.	63.	

TABLE IX a (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.296	-9.026	-9.432	-9.243	-9.295	1.0	-4.956	-8.956	-9.217	-9.217	-8.825
5.0	-4.801	-5.131	-7.160	-6.213	-6.474	5.0	-4.580	-4.974	-6.083	-6.083	-4.892
10.0	-4.318	-4.459	-4.851	-4.610	-4.642	10.0	-4.110	-4.355	-4.528	-4.485	-4.169
25.0	-2.871	-2.792	-2.980	-2.886	-2.794	25.0	-2.700	-2.500	-2.569	-2.348	-2.000
50.0	-0.460	-0.014	0.146	-0.014	0.330	50.0	-0.350	0.584	0.667	1.081	1.280
75.0	2.508	3.046	3.466	3.461	3.880	75.0	2.632	3.636	3.800	4.257	4.146
90.0	4.367	4.883	6.533	6.830	7.598	90.0	4.487	6.565	7.318	7.966	7.840
95.0	4.986	7.586	8.755	9.153	9.424	95.0	5.727	8.609	9.455	9.586	11.857
99.0	9.972	10.910	17.275	21.138	19.775	99.0	9.145	12.800	14.267	17.800	21.867
NO. OF OBS.	409.	409.	409.	409.	409.	NO. OF OBS.	188.	188.	188.	188.	188.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.781	-14.417	-14.562	-18.250	-18.250	1.0	-13.600	-14.300	-18.600	-14.720	-18.600
5.0	-8.906	-12.083	-12.812	-14.062	-14.062	5.0	-9.667	-11.500	-14.667	-13.600	-14.333
10.0	-7.812	-9.583	-10.625	-11.875	-11.875	10.0	-8.500	-9.667	-13.500	-12.200	-12.000
25.0	-4.712	-5.208	-5.250	-8.125	-8.858	25.0	-5.000	-7.917	-10.000	-9.444	-8.750
50.0	-1.346	-0.750	-2.167	-3.958	-5.192	50.0	-2.500	-5.000	-7.500	-7.500	-5.833
75.0	2.917	7.250	3.750	-7.312	1.563	75.0	0.	-1.818	-5.000	-5.556	-2.222
90.0	11.250	13.125	11.875	12.500	13.750	90.0	3.000	0.333	-0.800	-2.800	-1.286
95.0	15.625	16.250	14.063	21.250	21.250	95.0	4.000	2.667	3.000	-1.400	-0.286
99.0	19.125	23.250	28.250	28.250	28.250	99.0	4.800	4.333	8.600	-0.280	3.600
NO. OF OBS.	35.	35.	35.	35.	35.	NO. OF OBS.	28.	28.	28.	28.	28.

TABLE IX a (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	24	36	48	60	72	PERCENT	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60
1.0	-8.421	-9.263	-9.447	-9.418	-9.474	-9.211	1.0	-8.872	-9.275	-9.403	-9.492
5.0	-4.818	-6.317	-7.237	-7.092	-7.369	-6.034	5.0	-4.943	-6.375	-7.015	-7.462
10.0	-4.320	-4.634	-4.875	-4.811	-4.935	-4.500	10.0	-4.441	-4.700	-4.812	-4.962
25.0	-2.827	-2.925	-2.902	-2.790	-2.981	-2.454	25.0	-2.933	-3.250	-3.082	-3.148
50.0	-0.338	-0.077	0.439	0.625	0.387	1.062	50.0	-0.421	-0.833	-0.199	-0.090
75.0	2.948	3.490	4.172	4.260	4.278	4.846	75.0	2.817	2.866	3.750	4.104
90.0	4.994	6.768	7.966	8.318	8.694	8.679	90.0	4.847	6.140	8.063	7.897
95.0	7.489	8.741	9.564	9.992	11.341	9.994	95.0	7.181	8.170	10.472	9.390
99.0	9.498	16.317	16.317	14.395	16.317	16.975	99.0	9.436	9.794	14.983	13.970
NO. OF	221.	221.	221.	221.	221.	221.	NO. OF	203.	203.	203.	203.
OBS.	221.	221.	221.	221.	221.	221.	OBS.	203.	203.	203.	203.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	24	36	48	60	72	PERCENT	24	36	48	60	72
LEVELS	12	24	36	48	60	LEVELS	12	24	36	48	60
1.0	-12.200	-12.200	-14.600	-17.200	-17.200	-17.200	1.0	-13.683	-14.605	-18.683	-19.210
5.0	-9.250	-9.471	-13.000	-13.714	-13.875	-14.182	5.0	-9.750	-13.025	-14.635	-16.050
10.0	-8.083	-8.647	-11.000	-11.714	-12.125	-12.909	10.0	-8.711	-11.030	-13.115	-14.194
25.0	-4.722	-6.176	-8.158	-8.929	-9.000	-9.565	25.0	-5.592	-8.319	-9.464	-10.903
50.0	-0.833	-2.500	-4.500	-6.429	-6.200	-6.522	50.0	-2.348	-4.875	-6.643	-7.708
75.0	3.036	1.667	-1.000	-3.125	-1.667	-2.667	75.0	1.518	0.096	-2.250	-4.904
90.0	6.167	5.400	3.667	-0.500	2.750	0.667	90.0	6.167	4.654	2.833	-0.346
95.0	9.500	8.200	7.000	3.000	4.500	5.333	95.0	8.361	8.030	5.083	3.813
99.0	12.200	12.200	12.200	8.600	8.600	9.067	99.0	11.050	13.025	11.050	11.050
NO. OF	56.	56.	56.	56.	56.	56.	NO. OF	79.	79.	79.	79.
OBS.	56.	56.	56.	56.	56.	56.	OBS.	79.	79.	79.	79.

TABLE IX a (Cont'd)

FOR MONTH OF SEPTEMBER							INITIAL WIND SPEED 20 TO 30 (M/SEC)							FOR MONTH OF SEPTEMBER							INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 1 TO 5 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							ALTITUDE 1 TO 5 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
PERCENT							PERCENT							PERCENT							PERCENT						
LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72						
1.0 -14.914 -19.880 -19.700 -24.400 -24.400 -29.400							1.0 -9.911 -14.733 -14.800 -14.800 -14.840 -19.200							1.0 -8.767 -8.943 -9.178 -8.150 -8.767 -9.075							1.0 -8.767 -8.943 -9.178 -8.150 -8.767 -9.075						
5.0 -14.571 -19.400 -18.500 -22.000 -22.000 -27.000							5.0 -9.556 -13.667 -14.000 -14.000 -14.200 -16.000							5.0 -4.903 -4.971 -5.889 -4.712 -4.883 -5.375							5.0 -4.903 -4.971 -5.889 -4.712 -4.883 -5.375						
10.0 -14.143 -18.800 -17.000 -19.875 -19.875 -24.750							10.0 -9.111 -12.333 -13.000 -13.000 -13.400 -14.250							10.0 -4.389 -4.435 -4.442 -4.085 -4.267 -4.320							10.0 -4.389 -4.435 -4.442 -4.085 -4.267 -4.320						
25.0 -12.857 -17.000 -14.000 -18.750 -18.750 -22.500							25.0 -7.778 -9.375 -10.000 -10.000 -11.000 -11.250							25.0 -2.847 -2.826 -2.308 -2.203 -2.417 -2.100							25.0 -2.847 -2.826 -2.308 -2.203 -2.417 -2.100						
50.0 -10.714 -13.333 -11.000 -16.875 -16.875 -19.000							50.0 -5.556 -6.875 -7.778 -8.182 -8.125 -7.500							50.0 -0.278 -0.145 1.048 1.019 0.833 1.404							50.0 -0.278 -0.145 1.048 1.019 0.833 1.404						
75.0 -8.000 -8.750 -6.667 -15.000 -15.000 -16.000							75.0 -2.500 -3.750 -5.556 -6.364 -5.625 -3.333							75.0 2.845 3.241 4.032 4.444 4.688 4.649							75.0 2.845 3.241 4.032 4.444 4.688 4.649						
90.0 -6.200 -6.500 -3.000 -12.000 -10.500 -13.000							90.0 -0.500 -0.750 -2.667 -5.273 -2.667 1.000							90.0 4.759 5.941 7.318 6.240 8.200 8.370							90.0 4.759 5.941 7.318 6.240 8.200 8.370						
95.0 -5.600 -5.750 -1.500 -11.000 -8.000 -11.500							95.0 1.000 1.000 -1.333 -4.000 -1.333 3.000							95.0 6.917 8.118 9.000 9.720 9.433 9.741							95.0 6.917 8.118 9.000 9.720 9.433 9.741						
99.0 -5.120 -5.150 -0.300 -10.200 -5.600 -10.300							99.0 4.200 4.200 -0.267 -0.800 -0.267 4.600							99.0 9.383 9.853 13.600 14.520 13.150 13.767							99.0 9.383 9.853 13.600 14.520 13.150 13.767						
NO. OF							NO. OF							NO. OF							NO. OF						
OBS. 12. 12. 12. 12. 12. 12.							OBS. 12. 12. 12. 12. 12. 12.							OBS. 16. 16. 16. 16. 16. 16.							OBS. 16. 16. 16. 16. 16. 16.						

FOR MONTH OF SEPTEMBER							INITIAL WIND SPEED 0 TO 10 (M/SEC)							FOR MONTH OF SEPTEMBER							INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 1 TO 5 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)							ALTITUDE 1 TO 5 (KM)							INITIAL DIRECTION 315 TO 360 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
PERCENT							PERCENT							PERCENT							PERCENT						
LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72							LEVELS 12 24 36 48 60 72						
1.0 -8.593 -9.105 -8.030 -9.105 -9.343 -9.384							1.0 -8.767 -8.943 -9.178 -8.150 -8.767 -9.075							1.0 -8.767 -8.943 -9.178 -8.150 -8.767 -9.075							1.0 -8.767 -8.943 -9.178 -8.150 -8.767 -9.075						
5.0 -4.869 -5.523 -4.742 -5.523 -6.717 -6.922							5.0 -4.903 -4.971 -5.889 -4.712 -4.883 -5.375							5.0 -4.903 -4.971 -5.889 -4.712 -4.883 -5.375							5.0 -4.903 -4.971 -5.889 -4.712 -4.883 -5.375						
10.0 -4.417 -4.574 -4.218 -4.420 -4.678 -4.720							10.0 -4.389 -4.435 -4.442 -4.085 -4.267 -4.320							10.0 -4.389 -4.435 -4.442 -4.085 -4.267 -4.320							10.0 -4.389 -4.435 -4.442 -4.085 -4.267 -4.320						
25.0 -3.062 -3.125 -2.646 -2.450 -2.654 -2.481							25.0 -2.847 -2.826 -2.308 -2.203 -2.417 -2.100							25.0 -2.847 -2.826 -2.308 -2.203 -2.417 -2.100							25.0 -2.847 -2.826 -2.308 -2.203 -2.417 -2.100						
50.0 -0.803 -0.711 -0.027 0.906 0.861 1.196							50.0 -0.278 -0.145 1.048 1.019 0.833 1.404							50.0 -0.278 -0.145 1.048 1.019 0.833 1.404							50.0 -0.278 -0.145 1.048 1.019 0.833 1.404						
75.0 2.175 2.380 3.533 4.475 4.898 4.764							75.0 2.845 3.241 4.032 4.444 4.688 4.649							75.0 2.845 3.241 4.032 4.444 4.688 4.649							75.0 2.845 3.241 4.032 4.444 4.688 4.649						
90.0 4.199 4.404 6.788 6.597 9.422 9.109							90.0 4.759 5.941 7.318 6.240 8.200 8.370							90.0 4.759 5.941 7.318 6.240 8.200 8.370							90.0 4.759 5.941 7.318 6.240 8.200 8.370						
95.0 4.873 5.523 8.683 10.719 12.563 11.729							95.0 6.917 8.118 9.000 9.720 9.433 9.741							95.0 6.917 8.118 9.000 9.720 9.433 9.741							95.0 6.917 8.118 9.000 9.720 9.433 9.741						
99.0 8.769 9.105 11.717 16.717 17.538 15.075							99.0 9.383 9.853 13.600 14.520 13.150 13.767							99.0 9.383 9.853 13.600 14.520 13.150 13.767							99.0 9.383 9.853 13.600 14.520 13.150 13.767						
NO. OF							NO. OF							NO. OF							NO. OF						
OBS. 197. 197. 197. 197. 197. 197.							OBS. 148. 148. 148. 148. 148. 148.							OBS. 148. 148. 148. 148. 148. 148.							OBS. 148. 148. 148. 148. 148. 148.						

TABLE IX a (Cont'd)

FOR MONTH OF		SEPTEMBER		INITIAL WIND SPEED		10 TO	20 (M/SEC)
ALTITUDE	1 TO	5 (KM)	INITIAL DIRECTION		315 TO	360 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT LEVELS	ELAPSED TIME IN HOURS						
	12	24	36	48	60	72	
1.0	-9.662	-9.690	-14.725	-14.862	-19.725	-14.617	
5.0	-9.312	-9.450	-13.625	-14.312	-18.625	-14.083	
10.0	-8.625	-8.900	-12.250	-13.625	-17.250	-13.167	
25.0	-6.562	-7.250	-9.375	-11.562	-13.750	-10.417	
50.0	-2.500	-4.500	-7.063	-8.929	-9.167	-6.214	
75.0	1.563	-1.750	-4.375	-6.964	-4.583	-6.250	
90.0	3.625	-0.100	-0.250	-5.766	-1.633	-5.071	
95.0	4.312	2.250	2.250	-5.393	-0.917	-2.750	
99.0	4.662	4.450	4.450	-5.079	-0.183	-0.550	
NO. OF OBS.	11.	11.	11.	11.	11.	11.	



TABLE IX b

September, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMUDE 6 TO 10 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-7.062	-9.161	-9.021	-8.932	-9.321	-9.309	-8.777	-9.292	-9.039	-9.327	-8.655
5.0	-4.677	-5.804	-5.104	-4.957	-4.742	-6.544	-4.911	-4.909	-5.196	-6.637	-4.850
10.0	-4.187	-4.495	-4.361	-4.282	-4.103	-4.622	-4.420	-4.407	-4.397	-4.692	-4.265
25.0	-2.719	-2.620	-2.403	-2.256	-2.187	-2.573	-2.947	-2.901	-2.938	-2.512	-2.511
50.0	-0.271	0.500	0.912	1.318	1.156	1.036	-0.493	-0.392	-0.064	0.689	0.346
75.0	2.871	3.592	4.368	5.417	4.828	5.353	2.584	3.084	3.573	4.120	4.411
90.0	4.808	6.700	8.063	8.873	8.693	9.185	4.524	5.944	7.074	7.686	8.500
95.0	7.171	9.050	9.531	10.139	10.139	11.932	6.193	8.435	9.051	9.250	10.775
99.0	9.645	13.875	17.750	18.250	16.625	17.650	9.770	15.775	14.310	21.550	17.888
NO. OF											
OBS.	235.	235.	235.	235.	235.	235.	269.	269.	269.	269.	269.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMUDE 6 TO 10 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-12.000	-13.500	-14.400	-17.000	-14.625	-17.000	-11.850	-14.550	-14.850	-16.850	-16.850
5.0	-9.091	-9.722	-12.000	-13.750	-13.125	-13.889	-9.173	-12.750	-13.250	-13.208	-13.208
10.0	-7.727	-8.889	-9.792	-11.875	-11.250	-12.222	-7.962	-10.500	-11.500	-10.583	-10.583
25.0	-4.595	-6.389	-7.917	-8.966	-8.833	-9.138	-4.727	-8.011	-8.836	-8.589	-8.510
50.0	-2.568	-2.917	-4.773	-6.379	-6.333	-6.552	-2.266	-4.457	-6.121	-6.048	-5.481
75.0	-0.541	0.333	-1.364	-2.667	-2.667	-3.125	0.417	-1.033	-1.917	-2.279	-1.319
90.0	2.500	3.333	1.875	0.833	0.714	-0.312	3.567	2.938	2.313	1.417	2.811
95.0	4.000	4.333	3.750	3.333	2.857	2.500	4.617	4.906	4.281	4.042	4.361
99.0	7.000	7.000	7.000	7.000	4.571	7.000	16.850	16.850	13.425	8.425	11.850
NO. OF											
OBS.	60.	60.	60.	60.	60.	60.	63.	63.	63.	63.	63.

TABLE IX b (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.205	-9.453	-9.485	-9.028	-8.906	1.0	-8.250	-8.250	-9.125	-9.250	-8.950
5.0	-6.023	-7.266	-7.426	-5.139	-4.937	5.0	-4.750	-4.744	-5.625	-6.250	-4.955
10.0	-4.622	-4.913	-4.963	-4.401	-4.208	10.0	-4.167	-4.148	-4.451	-4.539	-4.018
25.0	-3.096	-3.387	-3.004	-2.553	-2.021	25.0	-2.417	-2.358	-2.530	-2.467	-1.205
50.0	-0.552	-0.843	0.250	0.647	1.798	50.0	0.500	0.655	0.786	1.014	2.083
75.0	2.595	3.112	3.375	4.418	5.980	75.0	3.417	3.780	4.536	4.561	5.380
90.0	4.583	6.848	6.029	6.362	9.527	90.0	5.750	6.964	7.976	6.125	8.804
95.0	6.477	9.750	8.603	9.871	13.750	95.0	6.375	8.839	9.226	9.438	9.946
99.0	9.659	13.125	13.750	16.250	24.063	99.0	12.375	12.375	12.375	14.875	23.250
NO. OF						NO. OF					
OBS.	175.	175.	175.	175.	175.	OBS.	105.	105.	105.	105.	105.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.886	-14.600	-14.733	-9.927	-14.200	1.0	-9.890	-14.725	-14.450	-14.633	-14.450
5.0	-9.429	-13.000	-13.667	-9.636	-11.000	5.0	-9.450	-13.625	-12.250	-13.167	-12.250
10.0	-8.857	-11.000	-12.333	-9.273	-8.000	10.0	-8.900	-12.250	-9.900	-11.333	-9.889
25.0	-7.143	-6.687	-9.375	-8.182	-3.750	25.0	-7.250	-9.062	-8.250	-8.214	-8.056
50.0	-4.167	-3.333	-6.875	-6.364	-1.250	50.0	-4.375	-5.625	-5.500	-4.375	-5.000
75.0	-0.833	-1.111	-3.750	-3.333	2.000	75.0	-0.937	-2.187	-2.500	-0.937	-0.417
90.0	12.000	2.000	-0.750	1.000	4.400	90.0	2.250	-0.125	-0.667	2.250	2.600
95.0	16.000	11.000	1.000	3.000	6.000	95.0	3.825	4.500	-0.056	3.625	3.900
99.0	19.200	14.200	4.200	4.800	9.200	99.0	4.725	8.900	3.900	4.725	4.780
NO. OF						NO. OF					
OBS.	16.	16.	16.	16.	16.	OBS.	22.	22.	22.	22.	22.

TABLE IX b (Cont'd)

[illegible][illegible]

TABLE IX b (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS						
LEVELS 12	24	36	48	72	LEVELS 12	24	36	48	72	LEVELS 12	24	36	48	60	72
1.0	-11.303	-13.915	-14.766	-14.837	-14.974	-14.050	1.0	-8.633	-9.180	-9.054	-9.385	-9.121	-9.385	-9.121	-9.121
5.0	-9.165	-9.935	-13.030	-13.632	-13.659	-13.737	5.0	-4.851	-5.900	-5.269	-6.925	-5.607	-6.925	-5.607	-5.607
10.0	-8.011	-9.100	-10.860	-12.125	-12.015	-12.346	10.0	-4.297	-4.415	-4.376	-4.681	-4.293	-4.681	-4.293	-4.264
25.0	-4.766	-6.596	-7.565	-8.713	-8.496	-8.792	25.0	-2.635	-2.165	-2.392	-2.118	-1.833	-2.118	-1.833	-1.701
50.0	-1.786	-2.674	-3.086	-4.625	-4.321	-4.321	50.0	0.158	1.461	1.118	1.762	2.048	1.762	2.048	2.313
75.0	2.091	2.072	2.169	-3.104	-0.446	-0.446	75.0	3.395	4.916	5.291	5.640	6.302	5.640	6.302	6.927
90.0	5.548	7.146	7.771	7.735	7.147	5.125	90.0	6.143	8.540	9.581	5.930	10.389	5.930	10.389	11.947
95.0	8.131	9.406	10.075	11.432	10.958	9.646	95.0	8.339	9.770	13.107	13.900	13.806	13.900	13.806	15.350
99.0	11.383	13.644	14.415	17.075	19.788	22.075	99.0	11.350	14.713	19.540	19.088	22.700	19.088	22.700	22.700
NO. OF OBS.	217	217	217	217	217	217	NO. OF OBS.	246	246	246	246	246	246	246	246

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 6 TO 10 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 6 TO 10 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72			
1.0	-22.850	-22.850	-23.925	-24.462	-24.570	-27.850	1.0	-9.859	-13.100	-13.733	-14.050	-14.240	-14.367		
5.0	-14.281	-17.125	-19.750	-22.312	-22.850	-24.361	5.0	-9.296	-9.437	-9.833	-10.250	-11.200	-11.833		
10.0	-12.937	-14.409	-16.167	-19.833	-20.700	-23.167	10.0	-8.593	-8.250	-9.042	-9.357	-9.567	-9.714		
25.0	-9.417	-11.477	-12.946	-16.250	-17.604	-19.712	25.0	-6.481	-4.861	-6.667	-7.321	-7.667	-7.879		
50.0	-5.833	-7.794	-9.038	-11.964	-13.594	-15.577	50.0	-2.381	-2.222	-3.281	-3.836	-4.167	-4.333		
75.0	-1.250	-3.750	-4.687	-6.250	-10.234	-11.917	75.0	2.250	1.250	-0.312	1.000	1.333	-1.167		
90.0	4.625	7.833	6.167	-0.300	-3.250	-9.300	90.0	5.400	6.714	6.167	4.800	5.400	4.400		
95.0	8.083	11.417	9.750	4.625	1.417	-7.150	95.0	9.200	9.429	9.333	9.000	9.200	9.000		
99.0	12.850	14.283	13.925	12.850	4.283	-5.430	99.0	13.733	13.733	13.733	10.100	13.733	13.733		
NO. OF OBS.	43.	43.	43.	43.	43.	43.	NO. OF OBS.	76.	76.	76.	76.	76.	76.		

TABLE IX b (Cont'd)

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTIMTUE 6 TO 10 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72		24	36	48	60	72
1.0	-7.200	-7.760	-7.200	-8.400	-9.067	-8.756		-14.287	-14.430	-17.150	-14.644	-17.150
5.0	-4.629	-4.627	-4.581	-4.687	-5.333	-4.849		-11.437	-12.150	-13.679	-13.219	-12.687
10.0	-4.052	-3.952	-3.930	-3.851	-4.268	-4.082		-9.500	-9.833	-11.643	-11.437	-9.854
25.0	-2.320	-1.928	-1.977	-1.343	-1.901	-1.781		-6.985	-7.798	-8.162	-8.580	-8.073
50.0	0.604	1.277	1.571	2.346	2.339	2.459		-3.437	-4.342	-4.079	-5.341	-5.104
75.0	3.681	4.255	5.870	5.354	6.983	6.923		-0.469	-0.592	-0.329	-0.750	-1.562
90.0	6.600	7.513	9.522	5.854	9.879	9.508		4.500	3.938	6.300	3.500	5.375
95.0	8.467	8.949	12.429	13.267	13.063	12.400		7.150	6.438	9.150	5.750	8.938
99.0	9.960	11.900	21.267	18.133	17.760	19.700		9.430	9.288	13.575	13.575	17.150
NO. OF							NO. OF					
OBS.	224.	224.	224.	224.	224.	224.	OBS.	57.	57.	57.	57.	57.

TABLE IX c

September 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTIMTUE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 0 TO 45 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12				24	36	48	60	72	84	96	108
1.0				-6.725	-6.906	-6.362	-6.362	-6.362	-24.033	-24.275	-27.100
5.0				-4.431	-4.902	-4.362	-4.446	-4.420	-20.167	-21.375	-23.417
10.0				-3.612	-3.732	-2.725	-3.022	-2.932	-16.727	-19.337	-21.000
25.0				-1.156	-0.223	1.017	0.898	1.164	-9.792	-14.773	-16.125
50.0				2.098	3.500	4.026	5.078	6.591	-4.286	-8.824	-12.885
75.0				5.045	7.406	9.223	13.489	11.767	-0.833	-4.167	-10.096
90.0				8.554	9.663	13.475	14.761	15.500	5.057	2.000	-3.444
95.0				9.723	12.477	15.450	16.028	19.139	7.929	7.750	-1.500
99.0				16.725	14.859	23.450	22.817	24.613	9.586	13.550	3.550
NO. OF OBS.				131.	131.	131.	131.	131.	58.	58.	58.

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTIMTUE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 45 TO 90 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12				24	36	48	60	72	84	96	108
1.0				-13.950	-13.984	-14.396	-14.341	-14.839	-8.700	-9.422	-9.133
5.0				-9.408	-9.981	-11.979	-11.705	-12.768	-4.867	-4.829	-7.111
10.0				-7.500	-8.028	-9.621	-9.470	-10.179	-4.289	-4.086	-4.781
25.0				-4.112	-5.430	-6.326	-6.174	-7.128	-2.556	-1.957	-2.344
50.0				-1.486	-1.898	-2.135	-2.206	-2.372	0.417	1.970	2.292
75.0				2.250	2.481	3.281	2.989	4.034	4.028	6.429	7.600
90.0				5.781	6.719	8.068	8.876	9.605	7.235	7.688	10.500
95.0				8.047	9.984	9.716	11.375	12.396	8.765	9.313	14.833
99.0				9.859	13.188	13.792	14.275	14.613	9.988	14.900	22.400
NO. OF OBS.				145.	145.	145.	145.	145.	104.	104.	104.

TABLE IX c (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-14.900	-14.973	-17.350	-19.117	-14.411	1.0	-9.300	-9.125	-8.833	-9.500	-9.125
5.0	-9.768	-13.045	-13.900	-15.583	-12.056	5.0	-6.500	-5.625	-4.907	-7.500	-7.812
10.0	-8.821	-10.636	-12.133	-11.714	-9.680	10.0	-4.615	-4.375	-4.259	-5.000	-5.625
25.0	-5.982	-7.803	-8.021	-7.750	-6.500	25.0	-2.596	-2.187	-2.315	-1.719	-2.500
50.0	-2.237	-4.000	-3.537	-3.214	-1.346	50.0	0.870	1.750	1.471	3.529	2.667
75.0	1.696	-0.687	-0.305	2.833	4.875	75.0	4.674	6.324	7.115	7.841	8.500
90.0	4.536	4.000	4.786	6.917	11.545	90.0	8.750	9.412	13.000	11.000	14.286
95.0	6.688	6.929	7.350	11.929	13.955	95.0	10.833	12.500	17.500	14.500	18.125
99.0	9.337	9.957	9.470	14.957	18.675	99.0	16.500	23.250	23.250	26.500	23.250
NO. OF OBS.	106.	106.	106.	106.	106.	NO. OF OBS.	70.	70.	70.	70.	70.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-14.893	-19.850	-24.850	-29.625	-24.625	1.0	-9.707	-17.950	-17.950	-14.707	-14.772
5.0	-14.464	-19.250	-24.250	-28.125	-23.125	5.0	-8.536	-13.687	-14.250	-13.536	-13.861
10.0	-13.929	-18.500	-23.500	-26.250	-21.250	10.0	-7.071	-11.125	-12.786	-12.071	-12.722
25.0	-12.321	-16.250	-21.250	-19.250	-14.464	25.0	-3.750	-6.250	-8.977	-8.984	-9.653
50.0	-9.375	-11.875	-17.500	-15.500	-11.786	50.0	0.132	-1.731	-4.318	-5.781	-6.806
75.0	-4.583	-8.125	-11.875	-11.750	-8.750	75.0	2.829	3.194	0.750	-2.417	-3.125
90.0	-0.833	-6.250	-6.250	-8.750	-6.500	90.0	4.447	7.900	7.375	-0.367	-0.050
95.0	1.250	-5.625	-3.750	-6.875	-5.750	95.0	4.987	9.950	9.938	2.375	4.875
99.0	4.250	-5.125	-0.750	-5.375	-5.150	99.0	13.975	18.975	13.975	7.950	8.975
NO. OF OBS.	15.	15.	15.	15.	15.	NO. OF OBS.	41.	41.	41.	41.	41.

TABLE IX c (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-14.500	-19.750	-24.633	-29.500	-24.633	-24.500	1.0	-18.500	-14.786	-14.700	-18.500
5.0	-12.500	-16.750	-24.167	-27.500	-22.500	-22.500	5.0	-12.500	-13.929	-13.500	-14.375
10.0	-10.000	-17.500	-23.333	-25.000	-23.333	-20.000	10.0	-9.444	-12.857	-12.000	-12.500
25.0	-7.500	-14.167	-20.833	-21.250	-20.833	-17.500	25.0	-6.944	-9.643	-8.437	-9.500
50.0	-3.333	-10.000	-15.000	-18.000	-15.000	-13.333	50.0	-3.182	-4.167	-3.750	-2.000
75.0	5.833	-1.875	-9.167	-15.500	-11.875	-6.750	75.0	0.625	3.125	5.417	3.929
90.0	8.333	0.000	-6.667	-10.000	-10.000	-5.000	90.0	7.500	10.000	9.167	6.000
95.0	9.167	2.500	-5.833	-7.500	-7.500	-2.500	95.0	11.250	13.750	11.250	9.500
99.0	9.833	4.500	-5.167	-5.500	-5.500	-0.500	99.0	14.250	18.500	14.250	18.500
NO. OF OBS.	10.	10.	10.	10.	10.	10.	NO. OF OBS.	30.	30.	30.	30.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.483	-9.612	-8.967	-9.225	-8.967	-9.225	1.0	-9.475	-8.950	-9.300	-8.600
5.0	-7.417	-8.062	-4.975	-6.125	-4.962	-6.125	5.0	-7.375	-4.966	-6.500	-4.700
10.0	-4.966	-6.125	-4.200	-4.214	-3.769	-4.312	10.0	-4.933	-4.241	-4.455	-3.650
25.0	-3.362	-3.026	-1.875	-0.893	-0.192	-1.406	25.0	-2.833	-2.069	-1.591	-0.500
50.0	-0.690	0.909	2.353	4.063	3.750	5.227	50.0	0.606	1.731	3.684	4.524
75.0	3.362	4.432	6.912	8.676	8.281	6.750	75.0	3.788	6.111	8.478	9.150
90.0	7.375	7.833	9.647	12.667	12.714	13.800	90.0	6.917	9.611	12.845	13.308
95.0	9.313	9.125	11.900	14.389	14.929	17.375	95.0	8.867	12.000	14.455	14.923
99.0	13.450	11.900	14.380	21.900	21.900	21.900	99.0	10.800	14.400	20.800	18.950
NO. OF OBS.	62.	62.	62.	62.	62.	62.	NO. OF OBS.	84.	84.	84.	84.



TABLE IX c (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTIITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	24	36	48	60	72
1.0	-9.956	-13.860	-14.482	-14.312	-14.900	-9.245	-9.056	-9.161	-6.225	-8.112
5.0	-8.531	-9.875	-12.409	-12.062	-11.643	-6.225	-5.281	-5.806	-4.105	-4.228
10.0	-6.750	-8.657	-9.929	-9.538	-8.937	-4.346	-3.924	-4.016	-2.887	-2.587
25.0	-3.955	-5.804	-6.875	-6.250	-5.978	-1.442	-0.492	-0.363	0.819	1.493
50.0	-1.364	-2.000	-1.786	-1.071	0.208	2.944	3.255	5.398	6.436	6.563
75.0	2.500	3.125	5.417	5.781	6.100	7.601	7.406	9.688	11.012	11.898
90.0	6.385	8.200	10.333	11.636	9.520	11.531	10.731	14.975	16.844	16.967
95.0	8.577	10.500	13.500	14.227	13.786	13.891	13.635	18.104	19.203	19.483
99.0	12.150	18.100	18.100	19.767	17.767	19.150	22.450	22.483	24.363	26.225
NO. OF	114.	114.	114.	114.	114.	151.	151.	151.	151.	151.
OBS.	114.	114.	114.	114.	114.	151.	151.	151.	151.	151.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTIITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	24	36	48	60	72
1.0	-18.975	-23.975	-23.975	-24.487	-24.590	-14.023	-14.690	-14.643	-17.907	-17.070
5.0	-14.950	-19.937	-19.937	-22.437	-22.950	-10.117	-10.783	-12.472	-13.470	-12.807
10.0	-12.900	-17.375	-18.250	-19.917	-20.900	-8.510	-9.121	-9.890	-10.540	-9.823
25.0	-7.969	-11.964	-13.594	-14.792	-12.969	-4.411	-5.982	-6.165	-6.382	-6.442
50.0	-3.281	-4.167	-7.187	-7.955	-7.708	-0.201	-0.980	-1.186	-1.167	-1.414
75.0	-0.078	-0.750	-0.179	-2.321	-2.856	4.589	5.625	5.362	5.669	4.792
90.0	4.917	4.875	4.917	3.625	3.167	9.098	10.661	11.450	11.396	9.964
95.0	7.438	8.250	7.438	6.583	7.375	11.868	13.277	13.892	14.448	13.417
99.0	9.487	12.950	9.487	9.317	12.950	16.338	17.588	18.621	19.535	18.621
NO. OF	41.	41.	41.	41.	41.	293.	293.	293.	293.	293.
OBS.	41.	41.	41.	41.	41.	293.	293.	293.	293.	293.

TABLE IX c (Cont'd)

FOR MONTH OF SEPTEMBER							INITIAL WIND SPEED 20 TO 30 (M/SEC)							INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 11 TO 15 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							INITIAL DIRECTION 270 TO 315 (DEG)						
							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-16.725	-26.725	-24.612	-24.742	-24.829	-26.725	1.0	-9.988	-12.920	-14.237	-14.585	-14.480	-14.982	1.0	-9.988	-12.920	-14.237	-14.585	-14.480	-14.982
5.0	-12.725	-15.562	-19.404	-20.375	-21.917	-23.104	5.0	-8.765	-9.229	-11.266	-11.385	-12.400	-13.091	5.0	-8.765	-9.229	-11.266	-11.385	-12.400	-13.091
10.0	-9.796	-13.475	-16.885	-18.094	-19.431	-20.375	10.0	-7.235	-7.743	-9.081	-9.370	-9.922	-10.727	10.0	-7.235	-7.743	-9.081	-9.370	-9.922	-10.727
25.0	-6.157	-9.154	-10.662	-12.880	-13.911	-16.652	25.0	-3.919	-4.104	-4.915	-6.481	-6.863	-7.083	25.0	-3.919	-4.104	-4.915	-6.481	-6.863	-7.083
50.0	-2.452	-4.375	-5.643	-6.750	-8.988	-9.937	50.0	-0.405	-0.224	-0.508	-1.170	-1.489	-1.923	50.0	-0.405	-0.224	-0.508	-1.170	-1.489	-1.923
75.0	1.726	0.284	-1.076	-2.072	-5.089	-5.844	75.0	3.898	4.537	4.423	5.000	5.345	3.810	75.0	3.898	4.537	4.423	5.000	5.345	3.810
90.0	6.553	4.750	3.719	1.773	0.950	0.864	90.0	8.138	9.094	9.846	11.529	11.235	11.529	90.0	8.138	9.094	9.846	11.529	11.235	11.529
95.0	8.276	7.477	6.531	4.750	4.225	3.841	95.0	9.931	12.091	12.667	14.588	14.294	14.588	95.0	9.931	12.091	12.667	14.588	14.294	14.588
99.0	9.655	9.859	9.806	8.908	8.690	9.483	99.0	14.400	17.400	14.978	19.325	18.700	19.943	99.0	14.400	17.400	14.978	19.325	18.700	19.943
NO. OF							NO. OF							NO. OF						
OBS.	131.	131.	131.	131.	131.	131.	OBS.	208.	208.	208.	208.	208.	208.	OBS.	208.	208.	208.	208.	208.	208.

FOR MONTH OF SEPTEMBER							INITIAL WIND SPEED 0 TO 10 (M/SEC)							INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 11 TO 15 (KM)							INITIAL DIRECTION 270 TO 315 (DEG)							INITIAL DIRECTION 270 TO 315 (DEG)						
							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-8.714	-8.875	-8.500	-7.750	-9.000	-8.200	1.0	-18.150	-21.300	-26.300	-26.300	-26.300	-26.300	1.0	-18.150	-21.300	-26.300	-26.300	-26.300	-26.300
5.0	-4.833	-4.889	-4.659	-4.359	-5.000	-4.259	5.0	-14.056	-17.300	-17.167	-18.583	-19.500	-18.583	5.0	-14.056	-17.300	-17.167	-18.583	-19.500	-18.583
10.0	-4.083	-3.889	-3.636	-3.205	-3.836	-2.593	10.0	-12.000	-13.600	-13.800	-15.500	-16.957	-15.500	10.0	-12.000	-13.600	-13.800	-15.500	-16.957	-15.500
25.0	-1.833	-0.889	-0.568	0.213	0.306	1.625	25.0	-8.125	-8.026	-8.906	-10.962	-11.458	-11.500	25.0	-8.125	-8.026	-8.906	-10.962	-11.458	-11.500
50.0	1.855	2.937	4.444	5.000	4.898	6.731	50.0	-3.500	-3.158	-3.333	-5.556	-6.250	-6.316	50.0	-3.500	-3.158	-3.333	-5.556	-6.250	-6.316
75.0	5.698	7.714	9.062	9.412	9.783	11.667	75.0	1.071	2.031	1.806	-0.417	0.625	1.500	75.0	1.071	2.031	1.806	-0.417	0.625	1.500
90.0	8.837	12.750	13.333	14.773	15.333	16.667	90.0	3.714	5.889	4.889	4.889	5.800	5.750	90.0	3.714	5.889	4.889	4.889	5.800	5.750
95.0	9.884	15.000	15.000	17.667	18.333	19.667	95.0	4.595	7.944	7.750	8.300	9.300	10.500	95.0	4.595	7.944	7.750	8.300	9.300	10.500
99.0	15.500	19.500	19.000	20.500	22.750	23.875	99.0	8.150	9.589	11.300	13.150	16.300	16.300	99.0	8.150	9.589	11.300	13.150	16.300	16.300
NO. OF							NO. OF							NO. OF						
OBS.	180.	180.	180.	180.	180.	180.	OBS.	74.	74.	74.	74.	74.	74.	OBS.	74.	74.	74.	74.	74.	74.

TABLE IX c (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT LEVELS	ELAPSED TIME IN HOURS			PERCENT LEVELS	ELAPSED TIME IN HOURS			NO. OF OBS.
	12	24	36		12	24	36	
1.0	-8.000	-7.000	-8.500	-4.958	-8.600	-9.143	-9.143	72
5.0	-4.643	-4.310	-4.524	-3.958	-4.773	-5.714	-5.714	72
10.0	-3.929	-3.276	-3.095	-2.708	-3.409	-3.684	-3.684	72
25.0	-1.766	-0.172	0.833	0.893	0.682	1.053	1.053	72
50.0	1.829	4.028	5.833	6.346	7.115	7.778	7.778	72
75.0	5.741	8.405	11.316	12.895	12.885	13.913	13.913	72
90.0	9.074	13.077	17.000	17.778	18.500	19.643	19.643	72
95.0	10.833	16.667	20.000	19.444	21.875	22.500	22.500	72
99.0	14.833	23.500	24.000	23.500	24.875	24.900	24.900	72
NO. OF OBS.	120.	120.	120.	120.	120.	120.	120.	50.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTIMITUDE 11 TO 15 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT LEVELS	ELAPSED TIME IN HOURS			PERCENT LEVELS	ELAPSED TIME IN HOURS			NO. OF OBS.
	12	24	36		12	24	36	
1.0	-11.425	-14.106	-12.617	-14.731	-14.731	-14.579	-14.579	143.
5.0	-8.830	-10.531	-9.284	-11.156	-11.156	-12.897	-12.897	143.
10.0	-7.205	-8.500	-8.052	-8.981	-8.795	-10.794	-10.794	143.
25.0	-3.870	-4.135	-4.464	-4.886	-4.472	-6.767	-6.767	143.
50.0	-0.433	0.547	0.865	0.795	-0.500	-1.554	-1.554	143.
75.0	4.596	6.450	7.639	7.974	6.382	5.284	5.284	143.
90.0	9.452	11.156	12.559	13.464	12.567	10.318	10.318	143.
95.0	12.021	13.391	14.662	16.583	14.950	13.568	13.568	143.
99.0	14.404	16.425	19.570	19.761	19.642	18.213	18.213	143.
NO. OF OBS.	143.	143.	143.	143.	143.	143.	143.	50.

TABLE IX d

September, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.205	-8.750	-8.906	-9.125	-9.125	-9.125	-9.028	1.0	-8.560	-8.685	-8.685	-8.957	-9.342	-9.407	-9.418
5.0	-6.023	-4.893	-4.949	-5.625	-5.625	-5.625	-5.139	5.0	-4.847	-4.883	-4.883	-4.978	-6.712	-7.034	-7.091
10.0	-4.822	-4.360	-4.358	-4.479	-4.449	-4.449	-4.401	10.0	-4.346	-4.393	-4.393	-4.447	-4.745	-4.822	-4.846
25.0	-3.096	-2.759	-2.584	-2.656	-2.518	-2.553		25.0	-2.844	-2.925	-2.925	-2.855	-3.147	-3.123	-3.202
50.0	-0.552	-0.091	0.393	0.458	0.619	0.595		50.0	-0.339	-0.477	-0.477	-0.202	-0.484	-0.290	-0.462
75.0	2.676	2.617	3.518	4.104	4.591	4.067		75.0	2.893	2.647	2.647	2.936	2.851	3.157	2.966
90.0	4.727	4.567	6.310	7.583	8.071	7.500		90.0	4.900	4.620	4.620	4.842	4.942	5.833	5.375
95.0	6.875	6.023	8.393	9.042	9.321	9.009		95.0	7.476	6.518	6.518	7.146	7.523	8.025	7.896
99.0	9.375	9.205	10.625	12.083	12.813	12.083		99.0	9.803	9.399	9.399	9.429	9.723	9.779	9.913
NO. OF								NO. OF							
OBS.	175.	175.	175.	175.	175.	175.	175.	OBS.	605.	605.	605.	605.	605.	605.	605.

FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF SEPTEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-13.000	-9.800	-14.500	-18.000	-18.000	-19.000	-18.000	1.0	-11.675	-12.340	-12.340	-12.340	-13.522	-14.447	-14.335
5.0	-9.286	-9.000	-12.500	-10.000	-10.000	-15.000	-14.167	5.0	-9.262	-9.231	-9.231	-9.554	-9.753	-10.900	-11.675
10.0	-7.957	-8.000	-10.000	-9.286	-9.286	-13.333	-12.500	10.0	-8.206	-8.000	-8.000	-8.839	-8.989	-9.470	-9.653
25.0	-4.474	-5.000	-7.692	-7.143	-9.091	-9.167		25.0	-5.040	-4.743	-4.743	-6.594	-6.695	-7.475	-7.553
50.0	-1.942	-2.619	-3.929	-3.947	-4.615	-6.369		50.0	-2.609	-2.466	-2.466	-3.589	-3.543	-4.309	-4.196
75.0	1.500	-0.238	-0.357	-1.316	-0.769	-1.429		75.0	-0.199	-0.188	-0.188	-0.907	-0.925	-1.606	-1.228
90.0	4.500	3.125	4.167	1.250	2.657	2.857		90.0	3.018	3.127	3.127	2.289	2.158	0.083	1.824
95.0	6.667	4.375	6.667	3.750	4.286	4.286		95.0	4.184	4.336	4.336	4.039	3.908	2.854	3.779
99.0	9.333	8.000	9.333	8.000	8.000	8.000		99.0	6.875	7.783	7.783	7.783	7.340	5.567	7.340
NO. OF								NO. OF							
OBS.	40.	40.	40.	40.	40.	40.	40.	OBS.	266.	266.	266.	266.	266.	266.	266.

TABLE IX d (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	12	24	LEVELS	12	24	LEVELS	12	24
1.0	-0.238	-0.728	1.0	-0.238	-0.728	1.0	-0.238	-0.728
5.0	-4.759	-4.891	5.0	-4.759	-4.891	5.0	-4.759	-4.891
10.0	-4.200	-4.379	10.0	-4.200	-4.379	10.0	-4.200	-4.379
25.0	-2.524	-2.846	25.0	-2.524	-2.846	25.0	-2.524	-2.846
50.0	0.301	-0.290	50.0	0.301	-0.290	50.0	0.301	-0.290
75.0	3.429	2.804	75.0	3.429	2.804	75.0	3.429	2.804
90.0	6.018	4.702	90.0	6.018	4.702	90.0	6.018	4.702
95.0	8.100	6.779	95.0	8.100	6.779	95.0	8.100	6.779
99.0	9.765	9.474	99.0	9.765	9.474	99.0	9.765	9.474
NO. OF OBS.	458.	458.	NO. OF OBS.	458.	458.	NO. OF OBS.	458.	458.
FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 25 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	12	24	LEVELS	12	24	LEVELS	12	24
1.0	-9.803	-12.687	1.0	-9.803	-12.687	1.0	-9.803	-12.687
5.0	-9.016	-9.344	5.0	-9.016	-9.344	5.0	-9.016	-9.344
10.0	-8.032	-8.187	10.0	-8.032	-8.187	10.0	-8.032	-8.187
25.0	-3.080	-4.887	25.0	-3.080	-4.887	25.0	-3.080	-4.887
50.0	-2.385	-2.575	50.0	-2.385	-2.575	50.0	-2.385	-2.575
75.0	0.552	-0.262	75.0	0.552	-0.262	75.0	0.552	-0.262
90.0	3.779	3.125	90.0	3.779	3.125	90.0	3.779	3.125
95.0	4.853	4.410	95.0	4.853	4.410	95.0	4.853	4.410
99.0	8.844	8.150	99.0	8.844	8.150	99.0	8.844	8.150
NO. OF OBS.	185.	185.	NO. OF OBS.	185.	185.	NO. OF OBS.	185.	185.

TABLE IX d (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-6.900	-4.976	-8.967	-9.225	-8.450	-7.933	1.0	-6.600	-9.244	-9.029	-8.640	-8.640	-8.867
5.0	-4.644	-4.527	-4.961	-6.125	-4.614	-4.714	5.0	-4.667	-6.222	-5.143	-4.868	-4.847	-4.933
10.0	-4.119	-3.964	-4.396	-4.593	-4.288	-4.161	10.0	-4.194	-4.641	-4.468	-4.368	-4.271	-4.367
25.0	-2.342	-2.273	-2.642	-2.870	-2.712	-2.500	25.0	-2.778	-3.047	-2.823	-2.868	-2.542	-2.667
50.0	0.102	0.556	0.333	-0.	-0.085	0.333	50.0	-0.417	-0.391	-0.081	-0.368	0.426	0.204
75.0	3.265	3.426	3.778	3.370	4.286	3.778	75.0	2.917	2.736	3.667	3.718	4.043	3.873
90.0	5.615	5.571	7.111	6.200	7.957	6.900	90.0	5.143	4.860	7.100	7.364	7.850	7.176
95.0	8.000	7.766	8.833	8.267	9.304	8.450	95.0	7.571	6.778	8.800	8.909	9.550	9.176
99.0	9.908	9.557	13.800	9.920	14.400	9.890	99.0	9.514	9.800	11.600	11.800	14.550	13.300
NO. OF	124.	124.	124.	124.	124.	124.	NO. OF	136.	136.	136.	136.	136.	136.
OBS.	124.	124.	124.	124.	124.	124.	OBS.	136.	136.	136.	136.	136.	136.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-9.792	-9.661	-9.875	-13.750	-9.886	-14.583	1.0	-13.750	-13.750	-13.750	-14.375	-14.750	-14.667
5.0	-8.958	-9.306	-9.375	-9.686	-9.432	-12.917	5.0	-9.844	-9.844	-9.911	-11.075	-13.750	-13.437
10.0	-7.917	-8.611	-8.750	-9.318	-8.864	-10.833	10.0	-9.062	-9.062	-9.464	-9.750	-12.500	-11.875
25.0	-4.911	-6.528	-6.875	-7.614	-7.159	-6.375	25.0	-6.719	-6.719	-8.125	-7.875	-9.375	-9.135
50.0	-2.679	-3.654	-3.611	-4.583	-4.062	-5.250	50.0	-2.812	-3.250	-5.893	-4.773	-6.250	-6.731
75.0	-0.446	-1.250	-0.139	3.750	-0.156	-0.208	75.0	1.094	-0.125	-2.656	-1.932	-2.656	-3.542
90.0	2.500	0.833	2.917	4.500	4.375	4.375	90.0	3.438	3.500	-0.312	-0.227	-0.312	-0.417
95.0	3.750	2.917	3.958	6.875	6.875	6.875	95.0	4.219	4.750	1.875	1.875	3.750	1.875
99.0	4.750	4.583	4.792	9.375	9.375	9.375	99.0	4.844	8.750	4.375	4.375	8.750	4.375
NO. OF	25.	25.	25.	25.	25.	25.	NO. OF	25.	25.	25.	25.	25.	25.
OBS.	25.	25.	25.	25.	25.	25.	OBS.	25.	25.	25.	25.	25.	25.

TABLE IX d (Cont'd)

FOR MONTH OF		SEPTEMBER		INITIAL WIND SPEED		0 TO		10 (M/SEC)	
ALTITUDE		16 TO 20 (KM)		INITIAL DIRECTION		315 TO		360 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)									
PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72		
1.0		-7.883	-4.889	-4.973	-6.825	-8.730	-6.825		
5.0		-4.672	-4.443	-4.465	-4.517	-4.618	-4.428		
10.0		-4.049	-3.886	-3.830	-3.811	-3.959	-3.592		
25.0		-2.181	-2.215	-1.925	-1.694	-1.385	-1.086		
50.0		0.720	0.613	1.225	1.473	1.762	2.176		
75.0		3.125	3.608	4.338	4.308	4.365	5.223		
90.0		4.568	6.344	7.929	7.690	7.690	8.625		
95.0		5.464	8.328	9.440	9.202	9.202	9.759		
99.0		9.093	9.916	13.413	12.883	12.883	14.663		
NO. OF								127.	127.
OBS.								127.	127.

TABLE IX e

September, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-9.450	-4.450	-4.690	-9.450	-4.908	-4.817	1.0	-9.727	-9.843	-9.935	-12.433	-10.650	-12.038
5.0	-7.250	-2.250	-4.450	-7.250	-4.542	-4.083	5.0	-7.703	-7.820	-8.596	-8.864	-9.032	-9.147
10.0	-4.750	0.100	-3.900	-4.750	-4.083	-3.167	10.0	-5.174	-5.291	-6.923	-7.066	-7.775	-7.890
25.0	-0.625	1.750	-2.250	-0.625	-2.708	-0.417	25.0	-3.666	-3.671	-4.127	-4.160	-4.613	-4.657
50.0	3.125	4.500	2.500	3.125	-0.417	3.125	50.0	-1.391	-1.367	-1.768	-1.889	-2.175	-2.213
75.0	7.083	11.562	7.813	7.083	7.083	7.083	75.0	1.625	1.621	1.244	3.882	0.609	0.560
90.0	9.833	13.625	9.875	9.833	9.833	9.833	90.0	4.135	4.011	4.224	4.034	3.990	4.126
95.0	12.250	14.312	12.250	12.250	12.250	12.250	95.0	4.971	4.808	5.931	5.389	5.511	6.198
99.0	14.450	14.862	14.450	14.450	14.450	14.450	99.0	9.163	8.682	9.343	9.256	9.466	9.823
NO. OF							NO. OF						
OBS.	11.	11.	11.	11.	11.	11.	OBS.	870.	870.	870.	870.	870.	870.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)				
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)			ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 45 TO 90 (DEG)				
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72		
1.0	-7.957	-4.959	-7.140	-7.617	-8.570	-7.957	1.0	-9.850	-14.475	-16.950	-14.475	-17.900	
5.0	-4.631	-4.409	-4.549	-4.639	-4.776	-4.649	5.0	-9.250	-12.375	-14.750	-12.375	-13.900	
10.0	-3.909	-3.721	-3.854	-4.017	-4.041	-3.962	10.0	-8.500	-9.937	-10.800	-9.944	-9.962	-11.800
25.0	-1.742	-1.659	-1.772	-2.152	-1.830	-1.899	25.0	-6.250	-7.969	-8.690	-8.194	-8.750	-9.022
50.0	1.391	1.303	1.296	1.000	1.565	1.345	50.0	-3.333	-4.687	-6.190	-5.278	-6.731	-6.739
75.0	4.079	3.620	3.944	4.250	4.674	4.349	75.0	-0.833	-1.406	-2.885	-2.206	-4.250	-4.038
90.0	7.140	6.306	6.895	7.491	8.000	7.585	90.0	2.000	1.800	-0.462	-0.353	-1.100	-1.615
95.0	8.602	8.252	8.776	8.840	9.212	8.934	95.0	3.500	3.900	2.250	1.500	-0.050	-0.808
99.0	11.425	9.891	12.675	9.919	12.140	10.233	99.0	4.700	7.900	7.900	4.300	3.950	-0.162
NO. OF							NO. OF						
OBS.	286.	286.	286.	286.	286.	286.	OBS.	42.	42.	42.	42.	42.	42.



TABLE IX e (Cont'd)

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTIITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTIITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-7.408	-7.779	-6.890	-8.445	-7.779	1.0	-13.900	-14.267	-14.267	-17.800	-17.800
5.0	-4.350	-4.604	-4.433	-4.688	-4.555	5.0	-9.923	-11.333	-11.333	-13.800	-14.143
10.0	-3.816	-3.884	-3.597	-3.815	-3.745	10.0	-9.077	-9.588	-9.708	-11.600	-12.167
25.0	-1.616	-1.725	-1.089	-1.194	-1.315	25.0	-6.538	-7.647	-8.333	-8.437	-9.091
50.0	1.412	1.416	2.010	2.047	2.004	50.0	-3.333	-4.474	-6.042	-5.000	-6.591
75.0	3.937	4.135	4.729	4.864	4.971	75.0	-0.714	-1.579	-2.692	-2.105	-3.667
90.0	6.616	7.190	7.992	8.201	8.279	90.0	2.250	0.600	-0.154	-0.368	-1.467
95.0	8.424	8.745	9.188	9.362	9.414	95.0	3.625	2.800	2.250	1.333	-0.733
99.0	9.871	9.989	12.363	12.779	12.779	99.0	4.725	4.560	4.450	4.267	-0.147
NO. OF						NO. OF					
OBS.	311.	311.	311.	311.	311.	OBS.	44.	44.	44.	44.	44.

FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF SEPTEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIITUDE 21 TO 25 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			ALTIITUDE 21 TO 25 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS	
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.625	-9.808	-9.888	-9.832	-11.633	1.0	-4.858	-4.923	-4.717	-9.150	-4.787
5.0	-7.630	-8.283	-8.708	-8.762	-9.139	5.0	-4.292	-4.614	-3.583	-5.750	-3.937
10.0	-5.136	-6.377	-7.234	-7.424	-7.791	10.0	-3.583	-4.227	-2.167	-4.300	-2.875
25.0	-3.613	-3.653	-4.244	-4.397	-4.585	25.0	-1.458	-3.068	0.893	-1.750	0.156
50.0	-1.259	-1.334	-1.700	-1.859	-2.048	50.0	1.563	-1.136	3.929	3.125	2.813
75.0	1.926	1.863	1.509	1.268	0.904	75.0	4.219	2.188	6.964	7.292	5.750
90.0	4.410	4.239	4.239	4.113	4.353	90.0	7.167	6.500	8.786	9.417	8.300
95.0	6.115	5.190	5.750	5.351	5.864	95.0	8.583	10.750	9.393	10.750	9.150
99.0	9.223	9.038	9.423	9.719	9.536	99.0	9.717	14.150	9.679	14.150	9.830
NO. OF						NO. OF					
OBS.	808.	808.	808.	808.	808.	OBS.	17.	17.	17.	17.	17.

TABLE X a

October, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMTUE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS
1.0	-8.942	-8.412	-9.023	-8.845	-9.093	-7.883	1.0	-8.469
5.0	-4.970	-4.772	-5.115	-4.903	-5.464	-4.553	5.0	-4.829
10.0	-4.427	-4.155	-4.244	-4.162	-4.219	-3.707	10.0	-4.335
25.0	-2.799	-2.306	-1.921	-2.017	-1.610	-1.167	25.0	-2.853
50.0	-0.065	0.727	1.524	1.750	2.247	2.527	50.0	-0.383
75.0	2.901	3.614	4.548	5.898	6.318	6.595	75.0	2.753
90.0	4.698	6.267	8.178	6.875	9.782	9.879	90.0	4.707
95.0	6.653	8.393	9.589	9.867	12.341	12.825	95.0	6.875
99.0	9.641	10.767	13.589	17.433	14.650	16.825	99.0	9.597
NO. OF OBS.	254.	254.	254.	254.	254.	254.	NO. OF OBS.	245.

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTIMTUE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
PERCENT	LEVELS	12	24	36	48	72	PERCENT	LEVELS
1.0	-9.675	-9.783	-13.700	-14.629	-14.675	-14.711	1.0	-9.627
5.0	-8.375	-8.917	-9.824	-13.143	-13.375	-13.556	5.0	-8.136
10.0	-6.750	-7.833	-9.059	-11.286	-11.750	-12.111	10.0	-6.273
25.0	-4.107	-4.783	-6.765	-7.692	-6.437	-6.571	25.0	-3.841
50.0	-1.786	-1.957	-3.250	-3.636	-4.524	-4.250	50.0	-1.341
75.0	1.000	1.250	0.	-0.682	-1.429	-1.000	75.0	1.900
90.0	3.600	3.688	3.250	4.000	1.286	2.375	90.0	4.360
95.0	4.487	4.500	4.333	6.750	3.143	4.000	95.0	5.900
99.0	7.400	7.400	7.400	9.350	4.629	7.400	99.0	9.180
NO. OF OBS.	52.	52.	52.	52.	52.	52.	NO. OF OBS.	82.

TABLE X a (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			0 TO 10 (M/SEC)								
ALTIITUDE			1 TO 5 (KM)			INITIAL DIRECTION			135 TO 180 (DEG)								
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)								
LEVELS			12	24	36	48	60	72	PERCENT								
1.0			-8.790	-7.983	-6.975	-8.790	-9.328	-8.992	1.0	-7.475	-4.999	-7.475	-4.893	-8.317	-9.369		
5.0			-4.897	-4.653	-4.437	-4.798	-6.639	-4.994	5.0	-4.701	-4.506	-4.637	-4.463	-4.762	-6.844		
10.0			-4.304	-3.966	-3.597	-3.635	-4.500	-4.256	10.0	-4.206	-3.890	-4.036	-3.926	-4.174	-4.691		
25.0			-2.525	-1.903	-1.076	-0.144	-1.573	-2.043	25.0	-2.721	-2.043	-2.232	-2.314	-2.413	-2.463		
50.0			0.459	1.500	2.744	3.138	2.847	2.109	50.0	-0.245	0.966	0.793	0.486	0.703	1.371		
75.0			3.546	4.861	6.632	8.821	7.305	7.350	75.0	3.250	3.835	3.872	3.993	4.648	5.655		
90.0			6.300	8.380	9.153	5.414	10.450	11.750	90.0	6.208	7.042	7.682	7.821	9.031	9.262		
95.0			8.317	9.590	9.993	11.393	13.475	13.911	95.0	8.313	9.146	9.977	9.625	11.625	11.625		
99.0			9.930	14.650	16.975	14.850	17.983	19.475	99.0	9.996	14.975	14.988	17.475	14.992	14.992		
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.		
121.			121.			121.			121.			101.			101.		

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			10 TO 20 (M/SEC)								
ALTIITUDE			1 TO 5 (KM)			INITIAL DIRECTION			135 TO 180 (DEG)								
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)								
LEVELS			12	24	36	48	60	72	PERCENT								
1.0			-9.828	-14.483	-14.806	-14.828	-14.845	-14.806	1.0	-9.775	-9.871	-9.887	-9.850	-14.100	-9.900		
5.0			-9.139	-12.417	-14.031	-14.139	-14.225	-14.031	5.0	-8.875	-9.357	-9.437	-9.250	-10.500	-9.500		
10.0			-8.278	-9.958	-13.062	-13.278	-13.450	-13.062	10.0	-7.750	-8.714	-8.875	-8.500	-9.636	-9.000		
25.0			-5.694	-8.021	-10.156	-10.694	-11.125	-10.156	25.0	-4.773	-6.786	-7.187	-6.250	-8.409	-7.500		
50.0			-2.969	-4.792	-6.250	-7.045	-7.500	-6.591	50.0	-2.727	-3.889	-4.444	-3.333	-6.364	-5.000		
75.0			-0.547	-1.562	-1.719	-1.750	-3.393	-2.344	75.0	-0.682	-1.389	-1.944	-0.833	-2.500	0.833		
90.0			2.417	1.500	4.750	3.625	-0.071	2.250	90.0	2.000	0.500	-0.444	2.000	3.000	5.500		
95.0			3.708	4.083	8.625	7.250	6.125	6.125	95.0	3.500	2.750	0.500	3.500	5.500	7.750		
99.0			4.742	6.450	13.450	13.450	9.225	9.225	99.0	4.700	4.550	4.100	4.700	9.100	9.550		
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.		
31.			31.			31.			31.			18.			18.		

TABLE X a (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			0 TO 10 (M/SEC)			INITIAL WIND SPEED			0 TO 10 (M/SEC)		
ALTIMETER			1 TO 5 (KM)			INITIAL DIRECTION			180 TO 225 (DEG)			INITIAL DIRECTION			225 TO 270 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			12	24	36	48	60	72	12	24	36	48	60	72	12	24	36
1.0	-4.940	-6.922	-9.030	-6.922	-6.922	-6.922	-6.922	-6.614	1.0	-8.369	-9.275	-9.232	-9.068	-9.275	-9.379	-9.379	-9.379
5.0	-4.442	-4.951	-5.150	-4.949	-4.949	-4.949	-4.949	-4.812	5.0	-4.740	-6.375	-6.162	-5.339	-6.375	-6.693	-6.693	-6.693
10.0	-3.821	-4.268	-4.405	-4.235	-4.235	-4.235	-4.235	-4.139	10.0	-4.087	-4.550	-4.521	-4.376	-4.597	-4.729	-4.729	-4.729
25.0	-1.955	-2.218	-2.563	-2.096	-2.096	-2.096	-2.096	-2.118	25.0	-2.049	-2.375	-2.461	-2.358	-2.589	-2.646	-2.646	-2.646
50.0	1.034	1.090	0.690	1.754	1.818	1.818	1.818	1.500	50.0	1.109	1.197	1.028	1.121	0.980	1.020	1.020	1.020
75.0	3.822	4.199	4.871	6.337	6.607	6.607	6.607	5.855	75.0	3.946	4.668	4.653	4.871	5.599	5.475	5.475	5.475
90.0	7.150	6.192	6.632	5.721	10.188	9.684	9.684	9.684	90.0	7.014	8.427	8.856	8.844	9.677	9.390	9.390	9.390
95.0	9.575	10.188	9.908	12.808	13.219	12.808	12.808	12.808	95.0	8.777	9.786	10.432	10.975	13.109	14.964	14.964	14.964
99.0	18.433	15.300	15.150	18.433	25.150	25.150	25.150	25.150	99.0	13.475	13.614	15.650	20.650	23.475	25.650	25.650	25.650
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.		
194.			194.			194.			194.			194.			194.		
261.			261.			261.			261.			261.			261.		

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			10 TO 20 (M/SEC)			INITIAL WIND SPEED			10 TO 20 (M/SEC)		
ALTIMETER			1 TO 5 (KM)			INITIAL DIRECTION			180 TO 225 (DEG)			INITIAL DIRECTION			225 TO 270 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS			12	24	36	48	60	72	12	24	36	48	60	72	12	24	36
1.0	-13.850	-14.310	-14.569	-14.425	-13.850	-14.310	-14.310	-14.310	1.0	-11.850	-13.919	-14.682	-15.275	-15.275	-15.275	-15.275	-15.275
5.0	-9.868	-11.550	-12.844	-12.125	-9.927	-11.550	-11.550	-11.550	5.0	-8.925	-9.852	-11.962	-13.448	-13.670	-13.670	-13.670	-13.670
10.0	-8.853	-9.604	-10.687	-9.850	-9.371	-9.648	-9.648	-9.648	10.0	-7.350	-8.888	-9.658	-11.479	-11.982	-11.982	-11.982	-11.982
25.0	-5.809	-7.448	-8.150	-8.125	-7.702	-7.731	-7.731	-7.731	25.0	-4.120	-5.993	-7.171	-8.199	-8.609	-8.609	-8.609	-8.609
50.0	-2.929	-4.052	-4.741	-5.250	-4.886	-4.437	-4.437	-4.437	50.0	-1.204	-2.115	-3.269	-4.120	-4.740	-4.657	-4.657	-4.657
75.0	-0.464	-1.078	-1.767	-1.719	-0.966	-0.707	-0.707	-0.707	75.0	2.775	2.532	0.819	0.550	0.398	-0.025	-0.025	-0.025
90.0	2.731	2.050	0.083	1.313	3.813	3.944	3.944	3.944	90.0	6.525	7.928	6.577	7.179	7.693	5.955	5.955	5.955
95.0	4.058	3.775	2.958	3.469	6.550	6.875	6.875	6.875	95.0	8.888	10.344	10.458	11.107	12.219	10.393	10.393	10.393
99.0	6.550	6.550	6.550	6.550	9.310	16.550	16.550	16.550	99.0	13.110	15.275	20.275	18.517	18.888	17.775	17.775	17.775
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.		
69.			69.			69.			69.			69.			69.		
189.			189.			189.			189.			189.			189.		

TABLE X a (Cont'd)

FOR MONTH OF				OCTOBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)							
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)							
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS							
LEVELS 12 24 36 48 72																			
1.0				-14.050	-19.683	-24.050	-24.683	-24.762	-29.050					-14.000	-14.769	-14.833	-14.667		
5.0				-10.250	-18.417	-20.250	-23.417	-23.812	-25.250					-10.000	-12.308	-13.056	-13.333		
10.0				-9.337	-16.833	-19.100	-21.833	-22.625	-23.500					-9.048	-9.848	-10.833	-11.667		
25.0				-7.321	-12.083	-16.250	-18.542	-19.531	-19.250					-6.190	-7.460	-8.030	-8.333		
50.0				0.417	-5.625	-9.500	-14.167	-16.562	-14.687					-2.619	-3.846	-5.000	-4.000		
75.0				4.375	3.750	0.417	-6.250	-12.187	-11.719					1.346	2.174	1.818	2.250		
90.0				8.500	10.250	5.250	5.500	-7.250	-4.750					6.923	8.438	7.941	8.056		
95.0				10.250	12.625	7.625	10.250	-4.750	-2.375					10.000	12.500	10.833	11.000		
99.0				14.050	14.525	9.525	14.050	-0.950	-0.475					18.000	19.250	22.000	19.000		
NO. OF																			
OBS.				19.	19.	19.	19.	19.	19.					160.	160.	160.	160.		

FOR MONTH OF				OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)							
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)							
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS							
LEVELS 12 24 36 48 72																			
1.0				-8.687	-9.344	-9.437	-8.875	-9.016	-9.212					-14.633	-23.900	-19.450	-23.900	-24.633	
5.0				-4.877	-6.719	-7.187	-4.935	-5.078	-6.062					-13.167	-19.500	-14.944	-17.250	-19.917	
10.0				-4.363	-4.705	-4.836	-4.347	-4.380	-4.504					-11.333	-14.875	-14.333	-14.923	-19.000	
25.0				-2.819	-2.844	-2.629	-2.584	-2.490	-2.466					-8.864	-12.812	-12.500	-13.654	-16.250	
50.0				-0.245	0.319	1.004	0.495	0.859	1.250					-6.364	-9.500	-9.444	-11.538	-13.000	
75.0				3.098	4.179	4.520	4.596	4.961	6.080					-2.917	-6.750	-6.389	-8.750	-10.250	
90.0				5.515	8.050	8.883	9.489	9.387	9.659					-0.167	-5.100	-3.667	-6.000	-3.000	
95.0				7.831	9.625	12.019	13.750	14.205	13.309					2.250	-0.500	-1.833	-5.083	-0.250	
99.0				9.684	14.023	19.042	23.850	24.625	22.850					4.450	3.900	-0.367	-1.100	3.900	
NO. OF																			
OBS.				315.	315.	315.	315.	315.	315.					22.	22.	22.	22.	22.	

TABLE X a (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			0 TO 10 (M/SEC)			FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			10 TO 20 (M/SEC)		
ALTITUDE			1 TO 5 (KM)			INITIAL DIRECTION			315 TO 360 (DEG)			ALTITUDE			1 TO 5 (KM)			INITIAL DIRECTION			315 TO 360 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)									WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT			ELAPSED TIME IN HOURS									PERCENT			ELAPSED TIME IN HOURS								
LEVELS			12	24	36	48	60	72				LEVELS			12	24	36	48	60	72			
1.0			-8.200	-8.600	-8.740	-9.031	-8.855	-9.031				1.0			-9.627	-10.900	-13.975	-14.180	-14.487	-13.975			
5.0			-4.796	-4.835	-4.857	-5.154	-4.901	-5.154				5.0			-8.136	-9.426	-9.985	-10.900	-12.437	-9.985			
10.0			-4.336	-4.257	-4.165	-4.256	-4.123	-4.247				10.0			-6.273	-8.667	-9.364	-9.467	-9.964	-9.364			
25.0			-2.956	-2.323	-2.088	-1.951	-1.790	-1.914				25.0			-4.087	-6.389	-7.500	-7.417	-7.768	-7.500			
50.0			-0.657	0.400	1.316	1.667	1.977	1.928				50.0			-2.115	-3.243	-4.355	-4.062	-4.074	-4.375			
75.0			2.446	3.550	4.632	5.104	5.965	6.132				75.0			-0.144	-0.473	-1.048	-0.859	-0.278	-1.172			
90.0			4.500	6.467	8.277	9.042	9.261	9.698				90.0			3.375	2.933	2.417	3.091	4.154	3.429			
95.0			6.063	8.567	9.617	11.545	12.000	13.133				95.0			4.856	4.300	4.125	4.935	6.900	6.583			
99.0			9.212	12.467	16.200	17.480	19.350	22.400				99.0			8.833	7.950	7.950	8.975	10.900	9.317			
NO. OF												NO. OF											
OBS.			252.	252.	252.	252.	252.	252.				OBS.			82.	82.	82.	82.	82.	82.			



TABLE Xb (Cont'd)

FOR MONTH OF				OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 6 TO 10 (KM)				6 TO 10 (KM)				135 TO 180 (DEG)				180 TO 225 (DEG)			
								WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				12 24 36 48 60 72				12 24 36 48 60 72				12 24 36 48 60 72			
1.0 -9.167				-4.875				-7.500				-13.537			
5.0 -5.833				-4.375				-4.375				-12.625			
10.0 -4.600				-3.750				-3.333				-9.289			
25.0 -3.100				-1.875				-2.083				-4.811			
50.0 -0.600				1.190				2.333				0.076			
75.0 2.639				4.167				3.125				5.550			
90.0 4.722				7.500				16.250				11.650			
95.0 7.500				9.063				19.375				14.375			
99.0 17.500				22.500				27.500				19.788			
NO. OF				OBS.				OBS.				OBS.			
50.				50.				50.				50.			
OBS.				50.				50.				50.			
FOR MONTH OF				OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 6 TO 10 (KM)				6 TO 10 (KM)				180 TO 225 (DEG)				180 TO 225 (DEG)			
								WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS 12 24 36 48 60 72				12 24 36 48 60 72				12 24 36 48 60 72				12 24 36 48 60 72			
1.0 -4.979				-4.976				-6.975				-19.792			
5.0 -4.485				-4.426				-4.404				-19.583			
10.0 -3.867				-3.739				-3.515				-17.917			
25.0 -2.015				-1.676				-0.846				-12.187			
50.0 1.193				2.095				2.849				-6.389			
75.0 4.631				6.563				7.938				1.250			
90.0 8.239				9.804				12.605				-0.417			
95.0 9.554				13.094				14.197				4.375			
99.0 23.950				28.950				21.975				18.750			
NO. OF				OBS.				OBS.				OBS.			
121.				121.				121.				121.			
OBS.				121.				121.				121.			



FOR MONTH OF OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF OCTOBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS		
PERCENT LEVELS	24	36	48	72	PERCENT LEVELS	12	24	36	48	60	72
1.0	-9.939	-13.441	-14.241	-14.692	1.0	-19.183	-32.550	-32.550	-27.550	-27.550	-29.387
5.0	-7.979	-9.372	-9.989	-11.462	5.0	-15.917	-18.964	-27.583	-23.550	-23.792	-26.937
10.0	-5.529	-7.622	-8.709	-9.103	10.0	-12.625	-17.214	-24.100	-21.100	-21.750	-24.100
25.0	-3.149	-3.680	-4.264	-5.019	25.0	-5.625	-10.750	-15.937	-17.159	-17.083	-17.969
50.0	0.210	-0.152	-0.395	1.205	50.0	1.250	-2.500	-7.500	-8.409	-10.750	-10.312
75.0	4.217	6.201	7.083	8.794	75.0	7.639	4.821	0.489	0.536	2.679	4.375
90.0	8.615	11.814	12.950	15.319	90.0	12.583	12.750	5.500	6.375	9.100	13.100
95.0	11.132	14.264	17.694	19.259	95.0	14.625	22.750	12.583	9.438	13.875	20.917
99.0	15.713	21.425	26.925	28.325	99.0	37.550	32.550	27.550	32.550	37.550	24.183
NO. OF OBS.	343.	343.	343.	343.	NO. OF OBS.	49.	49.	49.	49.	49.	49.

TABLE Xb (Cont'd)

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 40 TO 50 (M/SEC)			FOR MONTH OF OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72	
1.0	-23.550	-38.550	-38.550	-38.550	-34.275	1.0	-9.793	-13.729	-14.407	-14.141	-14.358	-14.444	
5.0	-14.750	-28.875	-32.750	-33.875	-31.375	5.0	-8.035	-9.202	-9.868	-10.705	-10.932	-11.420	
10.0	-13.944	-25.250	-28.875	-30.250	-29.337	10.0	-5.837	-7.677	-8.556	-8.947	-9.075	-9.181	
25.0	-11.528	-18.125	-21.875	-24.583	-26.250	25.0	-3.424	-3.996	-4.748	-5.167	-5.331	-5.243	
50.0	-5.500	-12.083	-12.812	-16.786	-19.643	50.0	-0.414	0.058	-0.413	-0.534	0.490	0.098	
75.0	2.750	-3.250	-7.250	-11.042	-13.750	75.0	4.075	5.792	7.008	7.892	9.181	8.973	
90.0	15.500	5.250	-1.500	-1.500	0.167	90.0	8.131	11.033	12.730	14.889	16.292	16.931	
95.0	36.375	8.875	12.750	32.750	2.583	95.0	9.680	14.183	15.618	20.458	20.500	20.786	
99.0	59.275	38.550	18.550	38.550	4.517	99.0	18.220	19.645	20.367	32.033	34.025	36.850	
NO. OF						NO. OF							
OBS.	29.	29.	29.	29.	29.	OBS.	29.	29.	29.	29.	29.	29.	

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)								
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT			ELAPSED TIME IN HOURS			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)								
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72				
1.0	-5.800	-5.800	-7.900	-8.320	-8.800	-9.236	1.0	-16.267	-22.200	-21.900	-21.267	-23.800	-24.760	1.0	-16.267	-22.200	-21.900	-21.267	-23.800	-24.760			
5.0	-4.385	-4.238	-4.511	-4.564	-4.684	-6.182	5.0	-12.437	-16.400	-15.444	-16.846	-17.950	-18.385	5.0	-12.437	-16.400	-15.444	-16.846	-17.950	-18.385			
10.0	-3.577	-3.238	-3.578	-3.487	-3.379	-4.194	10.0	-9.830	-12.900	-12.833	-14.158	-15.150	-14.586	10.0	-9.830	-12.900	-12.833	-14.158	-15.150	-14.586			
25.0	-1.134	-0.238	-0.778	-0.256	-0.263	-0.694	25.0	-5.978	-7.317	-8.000	-9.778	-10.875	-9.125	25.0	-5.978	-7.317	-8.000	-9.778	-10.875	-9.125			
50.0	1.899	3.448	3.804	4.348	4.082	5.795	50.0	-1.643	-2.063	-2.347	-2.400	-3.519	-2.195	50.0	-1.643	-2.063	-2.347	-2.400	-3.519	-2.195			
75.0	4.557	7.927	8.875	9.500	10.600	11.250	75.0	3.587	4.688	5.417	6.129	6.552	5.217	75.0	3.587	4.688	5.417	6.129	6.552	5.217			
90.0	8.138	12.733	13.522	15.400	16.455	18.643	90.0	8.121	11.900	13.867	13.429	14.000	12.900	90.0	8.121	11.900	13.867	13.429	14.000	12.900			
95.0	9.586	16.000	16.333	18.200	20.500	22.875	95.0	9.818	14.700	19.333	19.857	18.000	17.000	95.0	9.818	14.700	19.333	19.857	18.000	17.000			
99.0	14.320	20.800	22.900	23.300	26.300	31.600	99.0	14.311	22.933	29.829	36.267	36.267	36.267	99.0	14.311	22.933	29.829	36.267	36.267	36.267			
NO. OF			168.			168.			168.			168.			NO. OF			224.			224.		
OBS.			168.			168.			168.			168.			OBS.			224.			224.		

TABLE Xb (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS					
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-18.937	-24.150	-27.875	-30.750	-32.875	-28.937	1.0	-8.710	-6.775	-9.079	-8.710	-8.710	-8.710	1.0	-8.710	-6.775	-9.079	-8.710	-8.710	-8.710
5.0	-14.896	-20.750	-23.393	-24.583	-24.687	-24.792	5.0	-4.849	-4.414	-5.393	-4.773	-4.741	-4.685	5.0	-4.849	-4.414	-5.393	-4.773	-4.741	-4.685
10.0	-13.125	-18.250	-20.357	-19.464	-19.861	-21.250	10.0	-4.177	-3.566	-4.157	-3.766	-3.589	-3.283	10.0	-4.177	-3.566	-4.157	-3.766	-3.589	-3.283
25.0	-8.950	-12.768	-13.092	-14.926	-16.319	-17.321	25.0	-2.161	-1.020	-1.393	-0.742	-0.134	0.685	25.0	-2.161	-1.020	-1.393	-0.742	-0.134	0.685
50.0	-4.583	-5.781	-7.206	-8.977	-10.875	-9.792	50.0	0.991	2.188	3.214	3.819	5.093	5.887	50.0	0.991	2.188	3.214	3.819	5.093	5.887
75.0	1.827	1.975	0.288	-2.917	-3.281	-0.937	75.0	3.772	5.163	7.992	3.948	11.438	11.875	75.0	3.772	5.163	7.992	3.948	11.438	11.875
90.0	7.250	9.643	6.250	6.500	6.071	5.625	90.0	6.594	9.370	11.906	14.548	17.550	18.375	90.0	6.594	9.370	11.906	14.548	17.550	18.375
95.0	9.375	13.750	14.583	11.250	9.107	10.938	95.0	8.609	12.958	13.922	18.250	21.292	26.375	95.0	8.609	12.958	13.922	18.250	21.292	26.375
99.0	15.750	20.750	20.750	17.875	17.875	20.750	99.0	11.775	18.388	23.550	24.517	31.775	37.850	99.0	11.775	18.388	23.550	24.517	31.775	37.850
NO. OF							NO. OF							NO. OF						
OBS.	85.	85.	85.	85.	85.	85.	OBS.	129.	129.	129.	129.	129.	129.	OBS.	129.	129.	129.	129.	129.	129.

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 40 TO 50 (M/SEC)			FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS					
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-19.350	-24.350	-34.675	-29.870	-29.783	-29.675	1.0	-13.783	-14.744	-14.791	-16.350	-17.567	-17.567	1.0	-13.783	-14.744	-14.791	-16.350	-17.567	-17.567
5.0	-16.750	-21.750	-33.375	-29.350	-28.917	-28.375	5.0	-9.729	-11.500	-12.136	-12.591	-12.611	-13.464	5.0	-9.729	-11.500	-12.136	-12.591	-12.611	-13.464
10.0	-14.500	-19.250	-31.750	-28.700	-27.833	-26.750	10.0	-8.208	-9.258	-9.552	-9.714	-9.606	-10.857	10.0	-8.208	-9.258	-9.552	-9.714	-9.606	-10.857
25.0	-11.250	-14.583	-19.583	-26.750	-24.375	-21.875	25.0	-4.542	-5.726	-5.776	-5.804	-6.288	-5.937	25.0	-4.542	-5.726	-5.776	-5.804	-6.288	-5.937
50.0	-5.833	-9.167	-13.750	-19.167	-14.375	-15.833	50.0	-1.972	-2.193	-1.098	-0.789	-0.758	0.577	50.0	-1.972	-2.193	-1.098	-0.789	-0.758	0.577
75.0	4.375	-1.250	-7.083	-11.250	-10.312	-11.562	75.0	1.288	2.212	4.741	6.300	6.071	7.250	75.0	1.288	2.212	4.741	6.300	6.071	7.250
90.0	9.250	11.750	-1.500	-5.750	-1.500	-6.500	90.0	4.606	7.846	11.000	11.417	12.700	12.455	90.0	4.606	7.846	11.000	11.417	12.700	12.455
95.0	11.750	13.375	6.750	1.750	11.750	6.750	95.0	7.350	10.944	14.042	14.458	16.688	16.214	95.0	7.350	10.944	14.042	14.458	16.688	16.214
99.0	14.350	14.675	9.350	4.350	14.350	9.350	99.0	11.350	14.189	19.425	19.540	22.700	36.350	99.0	11.350	14.189	19.425	19.540	22.700	36.350
NO. OF							NO. OF							NO. OF						
OBS.	13.	13.	13.	13.	13.	13.	OBS.	146.	146.	146.	146.	146.	146.	OBS.	146.	146.	146.	146.	146.	146.

TABLE Xb (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF			OCTOBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)					
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)					
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-18.725	-19.636	-27.450	-22.450	-22.450	-22.450	1.0	-24.100	-24.100	-24.550	-19.550	-24.100	-19.700	1.0	-24.100	-24.100	-24.550	-19.550	-24.100	-19.700
5.0	-14.694	-18.179	-14.750	-14.694	-17.417	-18.708	5.0	-20.500	-20.500	-22.750	-17.750	-20.500	-18.500	5.0	-20.500	-20.500	-22.750	-17.750	-20.500	-18.500
10.0	-13.278	-16.357	-13.591	-13.278	-14.389	-16.583	10.0	-13.667	-19.000	-20.500	-15.500	-16.000	-17.000	10.0	-13.667	-19.000	-20.500	-15.500	-16.000	-17.000
25.0	-9.453	-12.946	-10.114	-9.417	-10.139	-11.406	25.0	-9.583	-15.625	-15.833	-9.375	-11.675	-13.125	25.0	-9.583	-15.625	-15.833	-9.375	-11.675	-13.125
50.0	-5.469	-8.269	-7.396	-5.167	-4.808	-5.227	50.0	-5.833	-8.333	-4.375	-4.167	-7.000	-7.500	50.0	-5.833	-8.333	-4.375	-4.167	-7.000	-7.500
75.0	-0.673	-2.344	-4.107	-3.625	0.208	1.042	75.0	-1.500	-2.917	-1.562	-0.917	-1.675	-2.500	75.0	-1.500	-2.917	-1.562	-0.917	-1.675	-2.500
90.0	4.214	4.875	2.375	4.214	6.583	10.900	90.0	2.000	-0.667	1.000	5.500	2.000	1.000	90.0	2.000	-0.667	1.000	5.500	2.000	1.000
95.0	6.813	7.450	5.750	6.813	8.708	13.450	95.0	3.500	0.500	5.500	7.750	3.500	5.500	95.0	3.500	0.500	5.500	7.750	3.500	5.500
99.0	9.362	9.490	9.150	9.362	17.450	17.450	99.0	4.700	4.100	9.100	9.550	4.700	9.100	99.0	4.700	4.100	9.100	9.550	4.700	9.100
NO. OF							NO. OF							NO. OF						
OBS.	51.	51.	51.	51.	51.	51.	OBS.	18.	18.	18.	18.	18.	18.	OBS.	18.	18.	18.	18.	18.	18.

TABLE X c

October, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMTUE 11 TO 15 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.300	-9.150	-8.300	-9.150	-9.757	-9.660	1.0	-8.750	-9.375	-9.687	-9.583
5.0	-4.781	-5.750	-4.500	-5.750	-8.786	-8.300	5.0	-4.886	-6.875	-8.437	-7.917
10.0	-4.250	-4.300	-3.286	-4.364	-7.571	-6.600	10.0	-4.318	-4.750	-6.875	-5.833
25.0	-2.656	-1.750	0.208	-2.045	-3.125	-1.500	25.0	-2.614	-2.875	-3.750	-2.679
50.0	0.	2.500	3.750	3.333	6.667	7.857	50.0	0.227	0.278	-0.278	1.563
75.0	3.864	7.917	9.583	3.643	15.833	20.625	75.0	3.068	3.750	5.750	6.250
90.0	8.250	14.333	16.500	24.000	32.000	33.000	90.0	4.773	6.875	9.500	13.750
95.0	11.500	17.167	25.750	35.750	34.125	37.167	95.0	6.875	8.437	11.875	21.875
99.0	18.300	19.433	29.150	39.150	38.300	39.433	99.0	9.375	9.687	14.375	24.375
NO. OF OBS.	34.	34.	34.	34.	34.	34.	NO. OF OBS.	25.	25.	25.	25.

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTIMTUE 11 TO 15 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 90 TO 135 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-13.650	-18.650	-14.730	-14.730	-14.662	-18.650	1.0	-8.650	-9.325	-9.550	-8.650
5.0	-9.806	-13.250	-13.650	-13.650	-13.312	-14.417	5.0	-4.875	-6.625	-7.750	-7.750
10.0	-9.056	-9.562	-12.300	-12.300	-11.625	-12.167	10.0	-4.393	-4.611	-5.500	-5.500
25.0	-6.806	-7.031	-9.205	-8.906	-8.281	-8.472	25.0	-2.946	-2.361	-2.321	-1.250
50.0	-3.056	-3.409	-6.136	-4.773	-4.318	-4.643	50.0	-0.536	1.389	3.500	3.438
75.0	0.893	-0.341	-1.964	-1.705	-1.250	0.417	75.0	2.917	5.250	8.281	9.250
90.0	3.786	5.500	3.250	0.500	2.167	7.167	90.0	5.500	9.300	12.167	14.125
95.0	4.750	7.750	6.625	2.750	4.417	9.417	95.0	7.750	13.250	14.417	18.250
99.0	8.650	9.550	9.325	4.550	8.650	13.650	99.0	9.550	18.650	23.650	28.650
NO. OF OBS.	27.	27.	27.	27.	27.	27.	NO. OF OBS.	27.	27.	27.	27.

TABLE X c (Cont'd)

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.894	-9.150	-4.717	-4.575	0.263	0.170	0.170	1.0	-9.350	-9.025	-4.783	-4.875	-4.875	-4.350	-4.610
5.0	-4.469	-5.750	-3.583	-2.875	1.417	0.650	0.650	5.0	-6.750	-5.125	-3.917	-3.375	-3.375	-1.750	-3.050
10.0	-3.937	-3.250	-2.167	-0.750	2.633	1.700	1.700	10.0	-4.679	-3.100	-2.833	-1.750	-1.750	0.281	-1.100
25.0	-2.344	1.250	2.083	3.750	5.893	4.250	4.250	25.0	-2.569	0.859	0.268	1.442	2.109	2.639	2.639
50.0	0.833	5.313	6.786	7.917	8.929	9.375	9.375	50.0	1.136	3.906	3.750	5.208	5.227	7.115	7.115
75.0	7.188	7.969	9.621	12.917	14.583	19.583	19.583	75.0	5.893	8.125	10.156	9.271	9.659	11.875	11.875
90.0	11.500	9.562	13.833	16.250	20.750	23.833	23.833	90.0	10.167	11.750	13.813	13.417	16.100	17.625	17.625
95.0	15.750	15.750	25.750	20.750	22.875	30.750	30.750	95.0	13.417	13.375	15.250	15.125	16.050	20.250	20.250
99.0	19.150	19.150	29.150	24.150	24.575	34.150	34.150	99.0	16.050	14.675	23.050	19.025	19.610	28.050	28.050
NO. OF OBS.	17.	17.	17.	17.	17.	17.	17.	NO. OF OBS.	39.	39.	39.	39.	39.	39.	39.

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			OCTOBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.908	-14.725	-9.662	-9.725	-9.450	-4.450	-4.450	1.0	-10.600	-10.600	-10.600	-10.600	-12.800	-17.800	-12.800
5.0	-9.542	-13.625	-9.312	-8.625	-7.250	-2.250	-2.250	5.0	-6.300	-6.111	-6.600	-6.600	-6.600	-7.000	-7.000
10.0	-9.083	-12.250	-8.625	-7.250	-4.833	0.500	0.500	10.0	-6.100	-5.667	-4.067	-4.800	-4.789	-4.222	-4.222
25.0	-7.708	-6.125	-6.562	-4.062	-2.083	5.936	5.936	25.0	-3.281	-2.778	0.185	-1.500	-1.316	-0.556	-0.556
50.0	-5.417	-3.125	-2.500	-0.625	6.675	9.375	9.375	50.0	0.238	2.059	4.259	3.636	4.474	4.167	4.167
75.0	0.417	0.417	2.083	5.625	10.625	15.625	15.625	75.0	5.556	8.000	9.500	10.000	10.455	12.000	12.000
90.0	3.167	3.167	4.833	9.750	14.750	19.750	19.750	90.0	9.222	16.000	16.200	16.571	17.667	20.500	20.500
95.0	4.083	4.083	12.250	12.250	17.250	27.250	27.250	95.0	11.333	19.667	20.750	19.714	24.000	26.250	26.250
99.0	4.817	4.817	14.450	14.450	19.450	29.450	29.450	99.0	14.267	23.900	25.600	27.800	37.800	35.600	35.600
NO. OF OBS.	11.	11.	11.	11.	11.	11.	11.	NO. OF OBS.	88.	88.	88.	88.	88.	88.	88.

TABLE X c (Cont'd)

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF OCTOBER			INITIAL WIND SPEED 40 TO 50 (M/SEC)			
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-18.875	-19.437	-19.250	-19.550	-22.750	1.0	-39.450	-39.450	-34.450	-29.817	-34.450	-34.817
5.0	-14.687	-17.187	-16.250	-17.750	-18.437	5.0	-37.250	-37.250	-32.250	-29.083	-32.250	-34.083
10.0	-11.875	-14.375	-14.423	-15.500	-15.625	10.0	-34.750	-34.500	-29.833	-28.167	-29.750	-33.167
25.0	-6.250	-8.194	-11.827	-10.536	-11.875	25.0	-30.625	-28.750	-27.083	-25.417	-25.625	-30.417
50.0	-1.833	-1.562	-5.357	-4.318	-2.812	50.0	-21.875	-23.750	-21.250	-15.833	-18.750	-24.167
75.0	3.194	3.977	-0.521	1.458	4.219	75.0	-7.917	-17.917	-11.250	-7.917	-9.375	-18.750
90.0	8.500	8.750	6.250	7.500	9.583	90.0	-5.167	-15.167	-0.500	-5.167	-5.250	-5.500
95.0	11.875	16.875	13.750	9.750	14.375	95.0	2.250	-2.750	2.250	7.250	-2.750	-2.750
99.0	17.750	22.750	18.875	17.750	32.750	99.0	4.450	-0.550	4.450	9.450	-0.550	-0.550
NO. OF OBS.	45.	45.	45.	45.	45.	NO. OF OBS.	11.	11.	11.	11.	11.	11.

FOR MONTH OF OCTOBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF OCTOBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			ALTITUDE 11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-24.450	-29.450	-29.450	-29.450	-29.725	1.0	-4.815	-4.769	-6.300	-4.664	-4.589	-6.300
5.0	-22.250	-27.250	-27.250	-27.250	-28.625	5.0	-4.075	-3.844	-3.875	-3.318	-2.944	-2.300
10.0	-19.833	-24.500	-24.500	-19.750	-27.250	10.0	-3.150	-2.687	-2.333	-1.636	-0.889	0.583
25.0	-17.083	-16.250	-16.250	-15.625	-23.125	25.0	-0.375	0.521	1.375	2.500	2.794	5.100
50.0	-11.250	-12.917	-9.167	-7.500	-10.833	50.0	2.576	4.375	5.952	7.037	7.115	8.800
75.0	1.250	-10.625	-3.750	5.625	-5.937	75.0	5.781	8.523	10.625	11.389	13.500	14.808
90.0	7.250	-0.500	7.250	9.750	4.500	90.0	9.250	13.286	16.000	18.833	22.167	23.667
95.0	8.625	12.250	8.625	12.250	7.250	95.0	11.625	16.625	22.167	25.500	25.750	26.300
99.0	9.725	14.450	9.725	14.450	9.450	99.0	16.300	21.300	31.300	31.300	36.300	29.260
NO. OF OBS.	11.	11.	11.	11.	11.	NO. OF OBS.	74.	74.	74.	74.	74.	74.

TABLE X c (Cont'd)

FOR MONTH OF OCTOBER						INITIAL WIND SPEED 10 TO 20 (M/SEC)						FOR MONTH OF OCTOBER						INITIAL WIND SPEED 30 TO 40 (M/SEC)					
ALTITUDE 11 TO 15 (KM)						INITIAL DIRECTION 225 TO 270 (DEG)						ALTITUDE 11 TO 15 (KM)						INITIAL DIRECTION 225 TO 270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT						ELAPSED TIME IN HOURS						PERCENT						ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72			
1.0	-9.443	-9.913	-9.913	-13.469	-14.094	-12.958	1.0	-19.770	-19.872	-26.925	-29.425	-26.925	-26.925	1.0	-19.770	-19.872	-26.925	-29.425	-26.925	-26.925			
5.0	-7.216	-8.029	-8.029	-8.819	-8.984	-8.698	5.0	-14.875	-17.139	-19.281	-19.281	-19.281	-19.850	5.0	-14.875	-17.139	-19.281	-19.281	-19.917	-19.850			
10.0	-4.802	-5.673	-5.673	-5.417	-5.156	-6.146	10.0	-9.912	-14.179	-15.437	-15.437	-16.500	-14.797	10.0	-9.912	-14.179	-15.437	-15.437	-16.500	-14.797			
25.0	-1.885	-1.607	-1.675	-1.403	-1.144	0.030	25.0	-4.764	-8.224	-11.713	-11.713	-11.250	-11.914	25.0	-4.764	-8.224	-11.713	-11.713	-11.250	-11.914			
50.0	2.315	4.136	4.120	3.958	5.245	6.653	50.0	-0.608	-1.146	-5.326	-5.446	-5.278	-6.300	50.0	-0.608	-1.146	-5.326	-5.446	-5.278	-6.300			
75.0	6.740	8.862	9.976	9.353	11.771	12.351	75.0	4.688	5.855	3.558	3.083	5.750	5.750	75.0	4.688	5.855	3.558	3.083	5.750	5.750			
90.0	10.795	14.479	17.500	17.500	17.500	19.265	90.0	11.688	11.688	12.643	11.850	12.192	14.071	90.0	11.688	11.688	12.643	11.850	12.192	14.071			
95.0	13.580	18.482	21.528	23.194	19.769	23.482	95.0	15.708	15.708	17.036	14.925	14.558	18.464	95.0	15.708	15.708	17.036	14.925	14.558	18.464			
99.0	21.375	27.750	28.550	33.875	28.188	29.625	99.0	19.808	19.808	23.850	21.925	24.425	23.463	99.0	19.808	19.808	23.850	21.925	24.425	23.463			
NO. OF						OBS.						NO. OF						OBS.					
245.						245.						245.						123.					

FOR MONTH OF OCTOBER						INITIAL WIND SPEED 20 TO 30 (M/SEC)						FOR MONTH OF OCTOBER						INITIAL WIND SPEED 40 TO 50 (M/SEC)					
ALTITUDE 11 TO 15 (KM)						INITIAL DIRECTION 225 TO 270 (DEG)						ALTITUDE 11 TO 15 (KM)						INITIAL DIRECTION 225 TO 270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT						ELAPSED TIME IN HOURS						PERCENT						ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72			
1.0	-14.489	-14.729	-14.027	-17.080	-16.800	-18.933	1.0	-28.375	-33.575	-33.575	-32.150	-32.150	-32.150	1.0	-28.375	-33.575	-33.575	-32.150	-32.150	-32.150			
5.0	-9.550	-11.294	-10.133	-12.176	-12.696	-13.955	5.0	-18.583	-29.150	-29.150	-25.375	-24.614	-28.150	5.0	-18.583	-29.150	-29.150	-25.375	-24.614	-28.150			
10.0	-7.725	-8.841	-8.580	-9.333	-9.792	-10.636	10.0	-14.500	-26.300	-26.300	-23.650	-23.318	-25.300	10.0	-14.500	-26.300	-26.300	-23.650	-23.318	-25.300			
25.0	-3.922	-4.444	-4.524	-5.278	-5.660	-5.233	25.0	-8.875	-14.219	-17.187	-19.107	-19.479	-20.875	25.0	-8.875	-14.219	-17.187	-19.107	-19.479	-20.875			
50.0	-0.343	-0.389	-0.179	-0.270	-0.	-0.671	50.0	-2.633	-6.875	-9.583	-9.167	-13.056	-13.214	50.0	-2.633	-6.875	-9.583	-9.167	-13.056	-13.214			
75.0	4.459	6.735	6.531	7.358	7.872	7.179	75.0	2.875	-0.125	-1.023	-0.781	-0.417	-5.568	75.0	2.875	-0.125	-1.023	-0.781	-0.417	-5.568			
90.0	8.729	12.565	12.130	13.038	13.606	14.192	90.0	8.583	6.643	5.375	6.300	7.167	6.083	90.0	8.583	6.643	5.375	6.300	7.167	6.083			
95.0	11.333	17.125	15.778	18.143	18.000	18.059	95.0	15.750	8.679	8.938	9.150	11.917	8.458	95.0	15.750	8.679	8.938	9.150	11.917	8.458			
99.0	20.133	25.200	25.200	27.700	26.850	26.350	99.0	27.150	12.150	13.575	13.575	17.150	12.150	99.0	27.150	12.150	13.575	13.575	17.150	12.150			
NO. OF						OBS.						NO. OF						OBS.					
292.						292.						292.						57.					



TABLE X c (Cont'd)

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FOR MONTH OF		OCTOBER		INITIAL WIND SPEED		50 TO		60 (M/SEC)		FOR MONTH OF		OCTOBER		INITIAL WIND SPEED		10 TO		20 (M/SEC)	
ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		225 TO		270 (DEG)		ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS								PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72			LEVELS		12	24	36	48	60	72		
1.0		-19.790	-26.950	-38.950	-34.650	-38.950	-33.950			1.0		-10.350	-14.186	-13.927	-14.671	-13.732	-14.403		
5.0		-18.950	-19.950	-34.750	-33.250	-29.975	-29.964			5.0		-8.559	-9.756	-9.884	-10.021	-9.622	-10.683		
10.0		-17.900	-18.900	-29.750	-31.500	-29.450	-29.214			10.0		-6.724	-8.012	-8.183	-8.384	-7.833	-8.474		
25.0		-14.583	-15.750	-21.875	-28.125	-27.875	-26.964			25.0		-3.471	-3.801	-3.425	-3.482	-2.591	-3.431		
50.0		-5.833	-11.250	-13.125	-21.250	-25.250	-19.375			50.0		0.304	1.038	3.349	4.309	4.663	5.625		
75.0		-1.042	-6.250	-7.708	-13.417	-20.250	-12.812			75.0		5.030	7.122	10.363	12.872	13.450	15.189		
90.0		14.500	9.500	-5.083	2.250	-0.500	-5.500			90.0		10.289	14.275	17.113	20.033	21.841	22.658		
95.0		19.750	14.750	4.750	4.875	4.750	-0.250			95.0		13.961	18.683	19.363	24.683	25.042	27.104		
99.0		23.950	18.950	8.950	23.950	13.950	8.950			99.0		19.506	24.506	25.350	33.683	36.513	37.210		
NO. OF										NO. OF									
OBS.		21.	21.	21.	21.	21.	21.			OBS.		279.	279.	279.	279.	279.	279.		

FOR MONTH OF		OCTOBER		INITIAL WIND SPEED		0 TO		10 (M/SEC)		FOR MONTH OF		OCTOBER		INITIAL WIND SPEED		20 TO		30 (M/SEC)	
ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)		ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS								PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72			LEVELS		12	24	36	48	60	72		
1.0		-5.900	-8.975	-7.950	-8.633	-5.900	-5.900			1.0		-14.485	-14.900	-19.256	-18.537	-19.391	-19.312		
5.0		-4.426	-4.976	-4.382	-4.607	-3.708	-3.808			5.0		-9.843	-10.971	-13.904	-13.717	-14.471	-15.362		
10.0		-3.667	-4.000	-3.176	-3.143	-2.000	-2.231			10.0		-8.296	-8.883	-10.692	-10.933	-12.086	-13.122		
25.0		-1.389	-1.071	0.469	1.458	2.885	2.500			25.0		-4.282	-4.750	-5.350	-5.721	-6.773	-8.086		
50.0		2.031	4.211	6.250	7.609	8.000	8.500			50.0		-0.149	1.149	1.354	1.900	1.081	-0.849		
75.0		5.577	10.469	10.962	13.393	14.375	16.250			75.0		5.245	7.454	9.409	9.953	9.781	10.391		
90.0		11.000	14.313	17.250	21.333	22.714	25.556			90.0		10.333	13.424	15.500	17.529	17.423	18.552		
95.0		16.500	18.167	21.900	27.375	26.500	28.833			95.0		13.813	17.100	20.958	23.192	21.179	22.787		
99.0		22.950	23.633	30.900	35.900	35.900	32.950			99.0		21.650	23.883	28.660	32.767	32.075	33.660		
NO. OF										NO. OF									
OBS.		82.	82.	82.	82.	82.	82.			OBS.		334.	334.	334.	334.	334.	334.		

TABLE X c (Cont'd)

[illegible]



TABLE X d

October, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF OCTOBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-6.756	-6.400	-9.067	-6.880	-6.756	-6.756		1.0	-9.917	-9.875	-9.917	-14.500	-14.750	-9.944	
5.0	-4.902	-4.804	-5.333	-4.942	-4.883	-4.878		5.0	-9.583	-9.375	-9.583	-12.500	-13.750	-9.722	
10.0	-4.402	-4.280	-4.514	-4.398	-4.287	-4.236		10.0	-9.167	-8.750	-9.167	-10.000	-12.500	-9.444	
25.0	-2.902	-2.710	-2.944	-2.767	-2.500	-2.389		25.0	-7.917	-6.875	-7.917	-8.125	-9.167	-8.611	
50.0	-0.402	-0.093	-0.327	-0.049	0.517	0.783		50.0	-5.833	-4.000	-5.833	-5.000	-5.000	-7.222	
75.0	2.840	2.903	2.917	3.395	3.736	4.137		75.0	-3.125	-1.500	-3.125	-2.500	-2.500	-5.833	
90.0	4.528	4.710	4.917	6.357	7.231	7.970		90.0	-1.250	0.000	-1.250	-1.000	-1.000	-5.000	
95.0	6.000	6.813	7.579	8.357	9.385	9.667		95.0	-0.625	2.500	-0.625	-0.500	-0.500	-2.500	
99.0	9.200	9.613	9.937	9.957	14.800	14.829		99.0	-0.125	4.500	-0.125	-0.100	-0.100	-0.500	
NO. OF OBS.	224.	224.	224.	224.	224.	224.		NO. OF OBS.	10.	10.	10.	10.	10.	10.	
FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 90 TO 135 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-8.937	-9.003	-9.161	-9.240	-9.114	-9.409		1.0	-6.859	-7.908	-9.104	-8.745	-9.163	-9.163	
5.0	-4.969	-5.016	-5.803	-6.202	-5.569	-7.046		5.0	-4.943	-4.759	-5.518	-4.910	-5.817	-5.817	
10.0	-4.455	-4.551	-4.611	-4.870	-4.605	-4.851		10.0	-4.482	-4.298	-4.580	-4.468	-4.629	-4.599	
25.0	-2.911	-3.199	-3.170	-3.220	-3.246	-3.392		25.0	-3.097	-2.914	-3.153	-3.143	-3.244	-3.103	
50.0	-0.339	-0.946	-0.768	-0.803	-0.980	-0.960		50.0	-0.790	-0.607	-0.777	-0.933	-0.937	-0.615	
75.0	2.584	2.224	2.512	2.636	2.486	2.539		75.0	2.242	2.409	2.456	2.266	2.483	2.846	
90.0	4.369	4.524	4.727	5.016	5.339	5.172		90.0	4.288	4.370	4.645	4.619	4.993	5.380	
95.0	4.965	6.375	7.010	7.508	7.911	7.864		95.0	4.970	5.205	6.897	6.897	7.707	7.890	
99.0	8.937	9.275	9.562	9.502	9.969	9.658		99.0	9.745	9.768	9.850	9.850	9.889	9.898	
NO. OF OBS.	319.	319.	319.	319.	319.	319.		NO. OF OBS.	251.	251.	251.	251.	251.	251.	



TABLE X d (Cont'd)

FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				OCTOBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-6.796	-6.394	-6.666	-9.037	-9.097	-6.666		1.0	-16.150	-19.075	-23.150	-23.150	-19.363	-24.075	
5.0	-4.896	-4.763	-4.931	-5.103	-5.464	-4.925		5.0	-13.583	-15.375	-17.875	-16.583	-16.917	-20.375	
10.0	-4.264	-4.135	-4.243	-4.350	-4.346	-4.180		10.0	-10.500	-12.167	-14.125	-15.500	-14.650	-15.750	
25.0	-2.447	-2.250	-2.179	-2.325	-2.159	-1.946		25.0	-7.063	-7.639	-8.977	-12.375	-11.875	-10.625	
50.0	0.665	0.640	1.299	1.172	1.460	1.675		50.0	-1.944	-2.955	-4.722	-7.750	-6.562	-6.964	
75.0	3.979	3.801	4.641	4.935	5.075	5.436		75.0	2.614	1.964	0.938	-2.321	0.469	-2.321	
90.0	7.638	7.136	9.010	5.296	9.410	11.079		90.0	5.750	6.625	6.917	3.633	3.938	2.300	
95.0	9.444	9.326	11.517	12.359	13.886	14.662		95.0	10.375	8.938	8.458	7.875	5.750	4.350	
99.0	15.275	14.444	16.850	20.550	19.555	20.183		99.0	14.075	13.150	9.692	13.150	13.150	8.150	
NO. OF								NO. OF							
OBS.	289.	289.	289.	289.	289.	289.		OBS.	37.	37.	37.	37.	37.	37.	

FOR MONTH OF OCTOBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				ELAPSED TIME IN HOURS				PERCENT				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-14.195	-13.390	-14.106	-14.746	-14.746	-14.661		1.0	-7.779	-6.890	-6.586	-7.779	-6.056	-6.272	
5.0	-10.975	-9.365	-10.528	-12.062	-12.062	-11.083		5.0	-4.711	-4.657	-4.824	-4.666	-4.698	-4.727	
10.0	-8.674	-7.687	-8.655	-9.516	-9.603	-9.322		10.0	-4.186	-4.153	-4.221	-4.059	-4.076	-4.079	
25.0	-4.475	-4.160	-4.975	-5.742	-6.506	-6.639		25.0	-2.610	-2.638	-2.413	-2.236	-2.210	-2.135	
50.0	-1.558	-1.137	-0.950	-1.223	-1.833	-2.102		50.0	0.022	-0.114	0.698	0.691	1.061	1.194	
75.0	2.232	3.536	4.393	4.637	4.948	4.350		75.0	3.373	3.640	4.200	4.272	4.729	4.696	
90.0	5.346	8.159	9.146	10.967	9.596	9.750		90.0	6.236	7.100	8.141	6.398	6.858	9.245	
95.0	8.442	9.989	12.469	13.650	13.719	13.861		95.0	8.396	8.828	9.832	10.558	11.327	12.617	
99.0	12.988	16.950	18.983	18.983	18.658	18.858		99.0	11.113	11.890	16.113	16.483	16.613	19.908	
NO. OF								NO. OF							
OBS.	161.	161.	161.	161.	161.	161.		OBS.	311.	311.	311.	311.	311.	311.	

TABLE X d (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			10 TO			20 (M/SEC)			INITIAL WIND SPEED			0 TO			10 (M/SEC)					
ALTITUDE			16 TO 20 (KM)			INITIAL DIRECTION			270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			INITIAL DIRECTION			315 TO 360 (DEG)					
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)					
LEVELS			12	24	36	48	60	72	LEVELS			12	24	36	48	60	72	LEVELS			12	24	36	48	60	72
1.0	-12.350	-13.133	-9.989	-13.940	-12.880	-14.117			1.0	-9.285	-8.481	-8.785	-9.132	-8.895				1.0	-9.285	-8.481	-8.785	-9.132	-8.895			
5.0	-9.132	-9.175	-9.218	-9.936	-9.517	-10.583			5.0	-6.426	-4.816	-4.902	-5.661	-4.935				5.0	-6.426	-4.816	-4.902	-5.661	-4.935			
10.0	-7.737	-7.850	-8.255	-8.809	-8.603	-9.115			10.0	-4.674	-4.279	-4.350	-4.469	-4.253				10.0	-4.674	-4.279	-4.350	-4.469	-4.253			
25.0	-4.375	-4.494	-5.364	-5.426	-5.862	-6.058			25.0	-3.047	-2.666	-2.693	-2.411	-2.205				25.0	-3.047	-2.666	-2.693	-2.411	-2.205			
50.0	-1.364	-1.517	-1.733	-1.449	-2.014	-1.937			50.0	-0.335	0.025	0.085	0.776	1.208				50.0	-0.335	0.025	0.085	0.776	1.208			
75.0	2.339	2.826	3.553	3.667	3.077	3.421			75.0	2.717	3.032	3.537	4.267	4.688				75.0	2.717	3.032	3.537	4.267	4.688			
90.0	4.903	7.458	8.586	5.304	9.667	9.125			90.0	4.577	4.837	6.845	6.118	8.686				90.0	4.577	4.837	6.845	6.118	8.686			
95.0	8.615	9.667	11.200	13.364	13.917	13.556			95.0	6.283	7.329	8.940	9.717	10.708				95.0	6.283	7.329	8.940	9.717	10.708			
99.0	14.880	13.822	17.200	19.880	19.900	23.133			99.0	9.523	9.887	12.975	14.731	18.808				99.0	9.523	9.887	12.975	14.731	18.808			
NO. OF									NO. OF									NO. OF								
OBS.	212.	212.	212.	212.	212.	212.			OBS.	243.	243.	243.	243.	243.				OBS.	243.	243.	243.	243.	243.			

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			20 TO			30 (M/SEC)			INITIAL WIND SPEED			10 TO			20 (M/SEC)					
ALTITUDE			16 TO 20 (KM)			INITIAL DIRECTION			270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			INITIAL DIRECTION			315 TO 360 (DEG)					
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)					
LEVELS			12	24	36	48	60	72	LEVELS			12	24	36	48	60	72	LEVELS			12	24	36	48	60	72
1.0	-14.662	-17.300	-19.460	-19.460	-19.460	-19.460	-19.460	-19.460	1.0	-9.807	-9.841	-14.100	-14.460	-14.325				1.0	-9.807	-9.841	-14.100	-14.460	-14.325			
5.0	-13.312	-14.056	-17.300	-17.300	-17.300	-17.300	-17.300	-17.300	5.0	-9.036	-9.206	-10.500	-12.300	-11.625				5.0	-9.036	-9.206	-10.500	-12.300	-11.625			
10.0	-11.625	-12.556	-14.800	-14.714	-14.818	-14.857			10.0	-8.071	-8.412	-9.333	-9.875	-9.562				10.0	-8.071	-8.412	-9.333	-9.875	-9.562			
25.0	-7.250	-8.833	-10.750	-9.500	-11.136	-11.984			25.0	-5.179	-6.029	-7.083	-7.344	-6.346				25.0	-5.179	-6.029	-7.083	-7.344	-6.346			
50.0	-2.750	-4.167	-5.000	-5.000	-6.071	-7.143			50.0	-2.400	-2.500	-3.571	-3.636	-3.250				50.0	-2.400	-2.500	-3.571	-3.636	-3.250			
75.0	0.893	1.944	0.500	1.500	2.500	2.917			75.0	0.577	1.591	-0.357	-0.568	0.500				75.0	0.577	1.591	-0.357	-0.568	0.500			
90.0	3.786	7.167	8.000	10.600	10.600	10.750			90.0	3.692	5.600	6.000	7.667	10.750				90.0	3.692	5.600	6.000	7.667	10.750			
95.0	4.750	9.417	10.500	13.300	13.300	14.125			95.0	4.731	8.300	10.500	12.167	14.125				95.0	4.731	8.300	10.500	12.167	14.125			
99.0	8.650	13.650	14.100	17.300	17.300	22.300			99.0	8.650	12.300	14.100	17.300	18.650				99.0	8.650	12.300	14.100	17.300	18.650			
NO. OF									NO. OF									NO. OF								
OBS.	54.	54.	54.	54.	54.	54.			OBS.	54.	54.	54.	54.	54.				OBS.	54.	54.	54.	54.	54.			

TABLE X e

October, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF OCTOBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)			
ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.993	-7.840	-8.457	-8.800	-8.457	-8.457	-9.229	1.0	-14.008	-13.810	-14.881	-13.512	-14.459	-14.810	-14.810
5.0	-4.842	-4.748	-4.829	-4.913	-4.824	-4.824	-6.143	5.0	-10.042	-9.762	-11.906	-9.809	-12.295	-10.050	-10.050
10.0	-4.203	-4.278	-4.342	-4.394	-4.324	-4.324	-4.608	10.0	-8.907	-8.275	-9.608	-9.225	-9.913	-9.546	-9.546
25.0	-2.886	-2.870	-2.883	-2.837	-2.824	-2.824	-2.938	25.0	-5.602	-4.699	-7.196	-7.475	-6.197	-6.173	-6.173
50.0	-0.891	-0.522	-0.450	-0.240	-0.324	-0.155	-0.155	50.0	-2.992	-2.816	-3.773	-4.575	-5.337	-5.685	-5.685
75.0	2.284	2.625	2.651	2.784	3.133	3.064	3.064	75.0	-0.739	-0.934	-1.068	-1.769	-2.083	-2.774	-2.774
90.0	4.284	4.650	4.602	4.625	5.980	7.417	7.417	90.0	2.025	1.192	1.906	-0.085	-0.100	-0.598	-0.598
95.0	4.951	6.733	6.400	6.500	8.040	9.917	9.917	95.0	3.513	3.481	3.766	2.806	2.295	0.750	0.750
99.0	9.356	9.613	9.280	9.586	9.768	11.400	11.400	99.0	4.702	7.025	7.025	7.025	4.459	4.150	4.150
NO. OF								NO. OF							
OBS.	216.	216.	216.	216.	216.	216.	216.	OBS.	119.	119.	119.	119.	119.	119.	119.

FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				FOR MONTH OF OCTOBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 45 TO 90 (DEG)				ALTIMUDE 21 TO 25 (KM)				INITIAL DIRECTION 90 TO 135 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS				WIND SPEED CHANGE VALUES (M/SEC)				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.107	-8.967	-9.153	-9.107	-9.440	-9.440	-9.440	1.0	-7.442	-8.941	-9.041	-8.904	-9.070	-9.213	-9.213
5.0	-5.534	-4.985	-5.763	-5.534	-7.199	-7.199	-7.199	5.0	-4.702	-4.974	-5.203	-4.958	-5.348	-6.064	-6.064
10.0	-4.596	-4.525	-4.614	-4.583	-4.893	-4.893	-4.894	10.0	-4.213	-4.497	-4.516	-4.480	-4.534	-4.638	-4.638
25.0	-3.219	-3.144	-3.202	-3.163	-3.405	-3.419	-3.419	25.0	-2.747	-3.067	-3.002	-3.045	-3.025	-3.147	-3.147
50.0	-0.924	-0.843	-0.848	-0.795	-0.923	-0.960	-0.960	50.0	-0.303	-0.683	-0.477	-0.654	-0.508	-0.663	-0.663
75.0	2.075	2.182	2.240	2.407	2.435	2.300	2.300	75.0	2.745	2.455	2.882	2.655	2.784	2.827	2.827
90.0	4.158	4.248	4.341	4.581	4.763	4.584	4.584	90.0	4.824	4.520	5.050	4.848	4.877	5.438	5.438
95.0	4.952	4.936	5.279	6.484	7.207	6.681	6.681	95.0	6.500	6.192	7.608	7.337	7.433	7.836	7.836
99.0	8.878	9.033	9.056	9.297	9.749	9.808	9.808	99.0	9.495	9.341	9.655	9.698	9.794	9.755	9.755
NO. OF								NO. OF							
OBS.	661.	661.	661.	661.	661.	661.	661.	OBS.	614.	614.	614.	614.	614.	614.	614.



TABLE X e (Cont'd)

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			INITIAL WIND SPEED			0 TO 10 (M/SEC)			
ALTIITUDE			21 TO 25 (KM)			INITIAL DIRECTION			INITIAL DIRECTION			180 TO 225 (DEG)			
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-13.517	-13.887	-12.775	-12.775	-12.775	-14.258	-14.258	1.0	-7.225	-8.150	-4.906	-4.906	-4.988	-4.985	-4.877
5.0	-9.670	-9.925	-9.617	-9.650	-9.650	-11.292	-11.292	5.0	-4.652	-4.780	-4.530	-4.530	-4.505	-4.368	-4.383
10.0	-8.659	-9.183	-8.922	-9.014	-9.014	-9.628	-9.655	10.0	-4.108	-4.302	-4.059	-4.059	-3.902	-3.597	-3.767
25.0	-5.625	-6.958	-6.836	-7.107	-7.107	-7.917	-8.065	25.0	-2.475	-2.866	-2.648	-2.648	-2.092	-1.285	-1.917
50.0	-3.194	-3.720	-3.720	-4.167	-4.167	-5.064	-5.417	50.0	0.250	-0.474	-0.297	-0.297	0.802	1.492	0.921
75.0	-1.134	-1.006	-1.006	-1.694	-1.694	-1.893	-2.243	75.0	3.025	2.649	2.887	2.887	3.420	3.730	3.355
90.0	0.611	1.962	2.125	-1.211	0.071	0.071	-0.279	90.0	4.690	4.631	4.869	4.869	4.991	5.409	4.816
95.0	3.083	3.673	3.979	2.125	3.250	3.250	2.125	95.0	6.750	6.750	7.225	7.225	8.028	7.932	7.156
99.0	5.550	5.550	7.775	5.550	7.775	7.775	5.550	99.0	9.921	9.921	9.445	9.445	12.225	9.950	9.931
NO. OF								NO. OF							
OBS.	89.	89.	89.	89.	89.	89.	89.	OBS.	111.	111.	111.	111.	111.	111.	111.

FOR MONTH OF			OCTOBER			INITIAL WIND SPEED			INITIAL WIND SPEED			0 TO 10 (M/SEC)			
ALTIITUDE			21 TO 25 (KM)			INITIAL DIRECTION			INITIAL DIRECTION			225 TO 270 (DEG)			
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-4.937	-8.850	-8.850	-8.850	-8.850	-8.467	-8.978	1.0	-9.036	-8.312	-8.875	-8.875	-8.875	-8.875	-9.156
5.0	-4.582	-4.935	-4.928	-4.918	-4.918	-4.816	-4.988	5.0	-5.179	-4.745	-4.933	-4.933	-4.936	-4.932	-5.781
10.0	-4.112	-4.441	-4.373	-4.288	-4.288	-4.287	-4.427	10.0	-4.449	-4.120	-4.330	-4.330	-4.364	-4.318	-4.491
25.0	-2.704	-2.957	-2.711	-2.397	-2.397	-2.701	-2.744	25.0	-2.733	-2.245	-2.522	-2.522	-2.648	-2.477	-2.616
50.0	-0.337	-0.484	0.070	0.688	0.688	-0.057	0.074	50.0	0.132	0.819	0.585	0.585	0.240	0.591	0.509
75.0	2.826	2.681	3.310	3.562	3.562	3.309	3.456	75.0	3.092	3.728	4.176	4.176	3.486	3.659	3.634
90.0	4.826	4.681	5.857	6.000	6.000	6.095	6.375	90.0	4.868	6.447	7.604	7.604	6.250	6.719	6.833
95.0	7.125	6.846	8.048	8.000	8.000	8.286	8.292	95.0	7.188	8.224	9.010	9.010	8.125	8.828	9.083
99.0	9.425	9.677	9.800	9.600	9.600	10.400	9.825	99.0	9.437	9.645	11.625	11.625	9.625	12.750	14.417
NO. OF								NO. OF							
OBS.	184.	184.	184.	184.	184.	184.	184.	OBS.	135.	135.	135.	135.	135.	135.	135.

TABLE X e (Cont'd)

FOR MONTH OF OCTOBER													
ALTITUDE 21 TO 25 (KM)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			PERCENT			PERCENT			PERCENT				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-14.150	-14.150	-19.150	-14.150	-19.150	-14.150	1.0	-14.750	-14.750	-14.833	-14.500	-9.929	-14.750
5.0	-10.750	-10.750	-15.750	-10.750	-15.750	-10.750	5.0	-13.750	-13.750	-14.167	-12.500	-9.643	-13.750
10.0	-9.125	-9.417	-9.417	-9.125	-11.500	-9.300	10.0	-12.500	-12.500	-13.333	-10.000	-9.286	-12.500
25.0	-5.937	-7.292	-7.292	-5.937	-7.187	-6.750	25.0	-9.375	-9.167	-10.833	-8.929	-8.214	-9.500
50.0	-3.542	-4.062	-4.167	-3.056	-3.750	-3.611	50.0	-6.250	-5.000	-7.500	-7.143	-6.429	-7.000
75.0	-1.771	-1.406	-1.806	-3.694	-1.625	-1.250	75.0	-1.250	-1.875	-3.750	-3.357	-2.500	-2.500
90.0	-0.708	1.500	-0.389	3.250	-0.350	0.750	90.0	5.000	0.000	0.000	2.500	2.500	2.500
95.0	-0.354	5.750	0.750	5.750	0.750	2.875	95.0	7.500	2.500	2.500	3.750	3.750	3.750
99.0	-0.071	9.150	4.150	9.150	4.150	4.375	99.0	9.500	4.500	4.500	4.750	4.750	4.750
NO. OF							NO. OF						
OBS.	17.	17.	17.	17.	17.	17.	OBS.	10.	10.	10.	10.	10.	10.

FOR MONTH OF OCTOBER													
ALTITUDE 21 TO 25 (KM)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			PERCENT			PERCENT			PERCENT				
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-8.783	-9.189	-8.175	-7.567	-9.270	-9.087	1.0	-8.000	-7.333	-8.000	-6.000	-8.400	-8.667
5.0	-4.892	-5.944	-4.746	-4.616	-6.350	-5.437	5.0	-4.765	-4.627	-4.701	-4.577	-4.746	-4.800
10.0	-4.293	-4.548	-4.185	-3.964	-4.603	-4.421	10.0	-4.294	-4.030	-4.104	-4.014	-4.068	-4.000
25.0	-2.458	-2.782	-2.500	-2.009	-2.716	-2.500	25.0	-2.882	-2.239	-2.313	-2.324	-2.034	-1.600
50.0	0.530	0.167	0.364	1.129	0.500	0.755	50.0	-0.529	0.676	0.643	0.522	1.143	1.690
75.0	3.295	3.208	3.682	4.073	4.150	4.198	75.0	2.719	3.378	3.500	3.507	4.000	4.507
90.0	4.955	5.133	6.682	7.281	7.913	7.680	90.0	4.825	5.000	5.833	6.111	6.923	7.931
95.0	7.577	7.587	8.341	8.848	9.500	9.140	95.0	7.143	7.500	8.056	8.333	8.482	9.310
99.0	9.823	9.513	9.668	11.350	13.540	12.567	99.0	9.429	9.500	9.833	11.000	9.692	13.000
NO. OF							NO. OF						
OBS.	146.	146.	146.	146.	146.	146.	OBS.	160.	160.	160.	160.	160.	160.

TABLE XI a

November, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-8.700	-9.278	-9.278	-9.409	-9.278	-8.700	1.0		-8.380	-8.843	-9.264	-9.494	-9.377	-9.264
5.0		-4.879	-6.389	-6.389	-7.045	-6.389	-4.797	5.0		-4.811	-4.915	-6.318	-7.469	-6.885	-6.318
10.0		-4.355	-4.583	-4.535	-4.655	-4.355	-3.919	10.0		-4.317	-4.292	-4.352	-4.981	-4.692	-4.500
25.0		-2.782	-2.552	-2.267	-1.293	-1.210	-1.284	25.0		-2.835	-2.423	-2.457	-2.689	-2.356	-2.163
50.0		-0.161	0.952	1.711	2.604	2.404	2.300	50.0		-0.366	0.692	1.034	1.277	1.509	1.579
75.0		2.933	4.821	6.210	6.759	6.146	6.019	75.0		2.695	3.808	4.526	5.724	5.500	5.227
90.0		4.808	8.103	9.355	11.000	10.500	9.630	90.0		4.594	6.913	8.357	9.921	8.971	8.909
95.0		7.045	9.224	11.389	14.250	13.750	14.500	95.0		6.450	8.674	9.804	9.987	10.563	10.900
99.0		9.409	11.750	14.278	18.700	23.375	22.833	99.0		9.690	10.950	14.483	16.900	14.613	18.967
NO. OF								NO. OF							
OBS.		130.	130.	130.	130.	130.	130.	OBS.		162.	162.	162.	162.	162.	162.

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)		FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-9.621	-14.117	-14.470	-14.735	-14.470	-14.337	1.0		-9.814	-12.950	-14.590	-14.707	-17.950	-17.950
5.0		-8.107	-10.583	-12.350	-13.675	-12.350	-11.687	5.0		-9.068	-9.625	-12.950	-13.536	-14.250	-14.250
10.0		-6.214	-9.324	-9.912	-12.350	-9.929	-9.675	10.0		-8.136	-8.893	-10.900	-12.071	-12.786	-12.786
25.0		-3.992	-6.985	-7.574	-8.839	-8.036	-7.687	25.0		-5.341	-6.696	-7.614	-8.917	-9.297	-9.375
50.0		-1.855	-3.194	-3.816	-4.219	-4.853	-4.219	50.0		-2.841	-3.750	-3.977	-5.500	-6.094	-6.328
75.0		0.795	1.094	-0.329	-0.078	-0.956	-0.078	75.0		-0.511	-1.420	-1.648	-2.266	-2.589	-2.625
90.0		4.409	6.214	6.929	6.167	4.700	6.214	90.0		2.786	-0.023	-0.250	-0.344	-0.393	1.125
95.0		6.688	8.107	8.821	10.583	7.938	8.107	95.0		4.250	3.250	2.375	2.375	2.375	3.688
99.0		9.337	9.621	12.350	14.117	12.350	9.621	99.0		7.950	7.950	7.950	12.950	12.950	7.950
NO. OF								NO. OF							
OBS.		53.	53.	53.	53.	53.	53.	OBS.		41.	41.	41.	41.	41.	41.

TABLE XI a (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS 12 24 36 48 60 72			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
1.0	-8.944	-9.396	-9.396	-9.396	-9.396	-9.396	-9.396	-9.396	-9.020	-9.020	-9.020
5.0	-4.974	-6.982	-6.982	-6.982	-6.982	-6.982	-6.982	-6.982	-5.100	-5.100	-5.100
10.0	-4.494	-4.816	-4.816	-4.760	-4.700	-4.362	-4.592	-4.592	-4.143	-4.172	-4.172
25.0	-3.054	-3.212	-3.212	-2.860	-2.750	-2.622	-2.479	-2.479	-1.518	-1.838	-1.838
50.0	-0.653	-0.538	-0.538	0.375	0.551	0.425	1.078	1.078	2.222	1.974	2.639
75.0	2.520	3.125	3.896	4.131	4.410	4.720	5.078	5.078	6.071	5.577	6.875
90.0	4.598	6.417	7.630	7.904	8.183	8.610	9.107	9.107	9.571	12.667	11.633
95.0	6.479	8.764	9.467	9.529	9.592	11.107	12.550	12.550	12.583	17.100	16.375
99.0	9.296	13.850	14.310	17.183	18.275	19.275	23.367	23.367	25.100	25.100	23.367
NO. OF											
OBS.	169.	169.	169.	169.	169.	169.	169.	169.	98.	98.	98.

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 90 TO 135 (DEG)			INITIAL DIRECTION 135 TO 180 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS 12 24 36 48 60 72			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
1.0	-9.450	-13.900	-9.862	-13.900	-9.890	-13.900	-13.900	-13.900	-9.842	-14.525	-14.050
5.0	-7.250	-9.937	-9.312	-9.944	-9.450	-9.937	-9.937	-9.937	-9.208	-12.625	-10.250
10.0	-4.933	-9.250	-8.625	-9.333	-6.900	-9.250	-9.250	-9.250	-8.417	-10.250	-9.250
25.0	-3.833	-7.187	-6.562	-7.500	-7.250	-7.187	-7.187	-7.187	-6.042	-5.417	-6.875
50.0	-2.000	-4.091	-3.636	-4.444	-4.167	-3.750	-3.750	-3.750	-5.312	-1.500	-2.187
75.0	-0.167	-1.591	-1.136	-1.389	0.833	-0.312	-0.312	-0.312	-0.750	4.063	2.083
90.0	3.500	-0.091	2.000	1.333	7.000	6.333	6.333	6.333	5.500	10.500	6.833
95.0	4.875	4.500	4.750	3.167	9.750	6.167	6.167	6.167	15.250	9.250	15.250
99.0	8.900	8.900	13.900	4.633	13.900	9.633	9.633	9.633	19.050	19.050	19.050
NO. OF											
OBS.	22.	22.	22.	22.	22.	22.	22.	22.	19.	19.	19.

TABLE XI a (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.175	-8.540	-8.175	-8.540	-9.189	1.0	-9.500	-19.500	-24.500	-19.833	-24.500
5.0	-4.670	-4.750	-4.649	-4.779	-5.944	5.0	-7.500	-17.500	-22.500	-19.167	-22.500
10.0	-3.940	-3.957	-3.872	-4.077	-4.451	10.0	-5.000	-10.000	-15.000	-18.333	-15.000
25.0	-1.750	-1.576	-1.543	-1.971	-2.304	25.0	-1.250	-4.375	-11.250	-15.833	-13.214
50.0	1.696	2.444	2.750	1.905	2.340	50.0	2.500	-1.250	-7.500	-13.000	-11.429
75.0	4.955	7.700	6.190	7.100	6.855	75.0	6.250	2.500	-2.500	-10.500	-7.500
90.0	8.567	13.467	14.071	14.111	11.200	90.0	10.000	5.000	10.000	0.000	0.000
95.0	9.783	16.688	18.357	18.167	14.850	95.0	12.500	7.500	12.500	2.500	2.500
99.0	21.350	22.700	24.425	24.233	22.700	99.0	14.500	9.500	14.500	4.500	4.500
NO. OF	146.	146.	146.	146.	146.	NO. OF	10.	10.	10.	10.	10.
OBS.	146.	146.	146.	146.	146.	OBS.	10.	10.	10.	10.	10.

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)		
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-9.655	-11.550	-16.550	-18.850	-19.137	1.0	-8.279	-8.279	-8.996	-7.590	-8.795
5.0	-8.275	-9.183	-11.937	-14.827	-15.687	5.0	-4.676	-4.623	-4.996	-4.462	-4.863
10.0	-6.550	-8.033	-9.548	-13.500	-12.929	10.0	-3.904	-3.724	-3.939	-3.596	-4.060
25.0	-3.187	-4.671	-7.083	-9.687	-8.798	25.0	-1.567	-1.026	-0.768	-0.937	-1.850
50.0	1.324	-0.132	-2.344	-5.375	-5.481	50.0	1.775	2.870	3.388	3.493	2.902
75.0	6.397	6.058	6.375	6.094	2.969	75.0	4.788	7.682	8.972	9.417	8.719
90.0	9.441	10.100	11.938	12.278	9.438	90.0	8.467	13.159	14.981	17.654	17.300
95.0	11.550	13.550	14.094	14.194	8.550	95.0	9.777	16.975	20.975	22.975	21.975
99.0	14.310	18.275	18.275	18.275	18.550	99.0	17.650	27.650	28.975	31.475	28.590
NO. OF	69.	69.	69.	69.	69.	NO. OF	241.	241.	241.	241.	241.
OBS.	69.	69.	69.	69.	69.	OBS.	241.	241.	241.	241.	241.

TABLE XI a (Cont'd)

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				PERCENT				PERCENT				PERCENT			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-9.936	-14.035	-15.817	-14.748	-17.908	-17.908		1.0	-24.200	-24.200	-29.200	-29.200	-29.600	-29.200	
5.0	-8.881	-10.173	-12.812	-13.075	-13.908	-13.977		5.0	-21.000	-21.000	-26.000	-26.000	-26.000	-26.000	
10.0	-7.112	-8.740	-9.812	-10.983	-11.817	-12.016		10.0	-17.000	-19.400	-23.500	-23.500	-26.000	-24.000	
25.0	-3.719	-4.680	-6.451	-7.398	-7.973	-8.413		25.0	-7.500	-17.000	-18.750	-18.333	-20.000	-20.000	
50.0	0.176	-0.582	-1.477	-2.383	-3.368	-4.269		50.0	-2.500	-10.000	-10.000	-13.750	-17.778	-15.000	
75.0	4.595	5.304	5.043	3.101	1.875	1.007		75.0	1.667	1.250	-5.000	-11.250	-15.556	-10.000	
90.0	8.988	10.806	12.119	11.346	8.658	7.967		90.0	6.000	4.250	2.000	-5.000	-12.667	-7.000	
95.0	11.712	14.292	15.281	15.281	14.656	12.481		95.0	8.000	11.000	6.000	-7.000	-11.333	-6.000	
99.0	18.725	23.725	25.817	24.150	23.725	19.363		99.0	9.600	14.200	9.200	-5.400	-10.267	-5.200	
NO. OF								NO. OF							
OBS.	251.	251.	251.	251.	251.	251.		OBS.	16.	16.	16.	16.	16.	16.	

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				ALTITUDE 1 TO 5 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT				PERCENT				PERCENT				PERCENT			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-17.625	-20.250	-23.812	-24.050	-24.472	-24.604		1.0	-8.996	-9.498	-9.174	-9.415	-9.219	-8.996	
5.0	-14.018	-18.661	-19.861	-20.250	-22.361	-23.021		5.0	-4.998	-7.431	-5.868	-7.073	-6.097	-4.997	
10.0	-12.321	-16.964	-18.981	-19.062	-19.922	-21.042		10.0	-4.440	-4.995	-4.410	-4.762	-4.445	-4.258	
25.0	-8.385	-13.491	-16.343	-16.094	-17.695	-17.650		25.0	-2.768	-3.007	-2.168	-2.311	-2.129	-2.039	
50.0	-3.500	-9.125	-11.071	-12.016	-13.750	-13.125		50.0	0.025	0.387	1.621	2.069	2.218	2.250	
75.0	1.736	-2.212	-6.298	-7.321	-8.365	-8.264		75.0	3.573	4.568	5.858	7.236	8.075	8.451	
90.0	6.250	3.269	0.417	-2.500	-2.250	-3.437		90.0	6.878	9.256	9.990	11.975	14.771	14.982	
95.0	8.625	5.417	4.375	0.417	0.313	-0.469		95.0	8.777	11.893	14.103	16.219	19.317	20.528	
99.0	15.250	12.825	12.625	15.250	5.250	5.250		99.0	12.190	14.569	22.190	23.707	27.738	28.988	
NO. OF								NO. OF							
OBS.	95.	95.	95.	95.	95.	95.		OBS.	281.	281.	281.	281.	281.	281.	

TABLE XI a (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 360 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-13.810	-14.927	-17.025	-17.620	-18.033	-18.017	1.0	-9.179	-9.015	-9.242	-9.296
5.0	-9.817	-13.096	-13.537	-13.887	-13.466	-14.106	5.0	-5.896	-5.075	-6.212	-6.482
10.0	-8.673	-10.808	-11.333	-11.968	-11.414	-12.303	10.0	-4.611	-4.429	-4.451	-4.482
25.0	-5.240	-7.928	-8.362	-8.412	-8.281	-8.514	25.0	-3.119	-2.691	-2.622	-1.795
50.0	-2.585	-4.062	-4.921	-4.357	-4.470	-4.203	50.0	-0.631	0.269	0.958	2.269
75.0	-0.064	-0.344	-0.198	-0.107	0.109	0.250	75.0	2.784	4.058	5.117	6.763
90.0	5.045	4.314	6.565	6.308	8.474	7.371	90.0	5.083	8.460	9.734	11.433
95.0	7.750	7.219	9.152	11.292	13.050	12.550	95.0	7.819	11.075	12.911	13.396
99.0	9.914	13.100	16.550	16.550	22.700	21.033	99.0	10.075	15.075	18.383	22.575
NO. OF							NO. OF				
OBS.	238.	238.	238.	238.	238.	238.	OBS.	197.	197.	197.	197.

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 30 TO 360 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.067	-24.300	-24.440	-27.200	-29.300	-28.600	1.0	-13.925	-14.462	-18.925	-18.567
5.0	-15.333	-21.500	-22.200	-23.875	-26.500	-24.200	5.0	-9.912	-12.312	-14.250	-13.700
10.0	-13.700	-19.273	-19.786	-22.125	-22.333	-21.400	10.0	-8.647	-9.870	-9.500	-9.618
25.0	-9.750	-15.455	-16.786	-18.684	-17.667	-17.812	25.0	-4.947	-7.065	-7.019	-8.015
50.0	-6.250	-10.357	-12.857	-15.000	-13.500	-12.917	50.0	-2.660	-2.931	-3.226	-4.400
75.0	-2.955	-6.750	-8.889	-10.882	-10.000	-5.000	75.0	-0.372	1.607	0.536	-0.100
90.0	-1.045	-3.600	-3.250	-5.500	3.500	-0.800	90.0	3.615	6.889	5.333	7.125
95.0	-0.409	-0.800	1.000	3.667	7.750	3.000	95.0	6.750	9.278	8.917	9.813
99.0	7.200	7.200	8.600	12.200	17.200	13.600	99.0	15.700	13.567	13.567	14.140
NO. OF							NO. OF				
OBS.	56.	56.	56.	56.	56.	56.	OBS.	86.	86.	86.	86.

TABLE XI b

November, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 0 TO 10 (M/SEC)				INITIAL WIND DIRECTION 0 TO 90 (DEG)						
ALTIMUDE 6 TO 10 (KM)				INITIAL WIND SPEED 0 TO 45 (DEG)				INITIAL WIND DIRECTION 45 TO 90 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				PERCENT				PERCENT						
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-8.550	-8.550	-9.275	-4.819	-8.550	-4.517		1.0	-4.918	-4.883	-9.300	-9.300	-4.825	-4.800
5.0	-4.827	-4.795	-6.375	-4.094	-4.550	-2.583		5.0	-4.588	-4.417	-6.500	-6.500	-4.125	-4.000
10.0	-4.269	-4.136	-4.437	-3.187	-3.100	-0.167		10.0	-4.176	-3.833	-4.636	-4.556	-3.250	-3.000
25.0	-2.596	-2.159	-1.719	-0.469	1.250	2.125		25.0	-2.941	-2.083	-2.727	-2.222	-0.625	-0.
50.0	0.208	1.136	2.813	7.083	8.500	8.750		50.0	-0.882	1.111	0.625	2.500	4.286	6.250
75.0	3.229	4.432	9.686	15.625	17.292	19.750		75.0	2.837	5.000	5.000	3.000	9.286	12.500
90.0	5.167	8.875	14.100	19.250	21.833	30.500		90.0	6.500	9.200	9.200	16.500	17.000	20.500
95.0	7.583	12.750	17.750	21.375	24.250	36.375		95.0	8.250	11.500	13.000	18.250	19.333	24.000
99.0	9.517	18.550	25.550	24.275	33.550	39.275		99.0	9.650	14.300	18.600	19.650	23.600	38.600
NO. OF OBS.	29.	29.	29.	29.	29.	29.		NO. OF OBS.	29.	29.	29.	29.	29.	29.

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIMUDE 6 TO 10 (KM)				INITIAL WIND DIRECTION 0 TO 45 (DEG)				INITIAL WIND DIRECTION 45 TO 90 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				PERCENT				PERCENT						
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-14.525	-19.050	-19.050	-14.525	-9.762	-14.050		1.0	-9.833	-14.500	-19.500	-19.500	-19.500	-19.500
5.0	-12.625	-15.250	-15.250	-12.625	-8.812	-10.250		5.0	-9.167	-12.500	-17.500	-17.500	-17.500	-17.500
10.0	-10.250	-13.500	-12.750	-10.250	-7.625	-4.100		10.0	-8.333	-10.000	-15.000	-15.000	-15.000	-15.000
25.0	-8.036	-9.464	-7.812	-6.562	-3.750	-1.250		25.0	-5.833	-8.750	-9.375	-11.250	-12.500	-11.250
50.0	-4.583	-6.071	-3.214	0.833	3.125	5.625		50.0	-3.333	-6.667	-6.250	-5.000	-7.500	-6.667
75.0	-0.825	-1.750	0.625	6.875	11.250	16.250		75.0	-1.250	-2.500	-2.500	1.250	-1.250	1.250
90.0	5.500	10.250	10.250	9.250	17.625	27.750		90.0	5.000	15.000	10.000	15.000	5.000	10.000
95.0	15.250	12.625	12.625	10.250	18.812	30.250		95.0	7.500	17.500	12.500	17.500	7.500	12.500
99.0	19.050	14.525	14.525	14.050	19.762	34.050		99.0	9.500	19.500	14.500	19.500	9.500	14.500
NO. OF OBS.	19.	19.	19.	19.	19.	19.		NO. OF OBS.	10.	10.	10.	10.	10.	10.



TABLE XI b (Cont'd)

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		180 TO 225 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-8.850	-4.685	-4.425	-4.425	-3.850	-3.850	1.0		-4.857	-4.750	-4.800	-9.000	-9.000	-9.000
5.0		-4.925	-4.425	-2.125	-2.125	0.250	5.250	5.0		-4.286	-3.750	-4.000	-5.000	-5.000	-5.000
10.0		-4.350	-3.850	0.250	0.250	2.167	7.167	10.0		-3.571	-2.500	-3.000	-3.750	-4.000	-3.750
25.0		-2.625	-2.125	3.125	3.125	6.250	11.458	25.0		-1.429	1.867	-0.	-1.000	-1.000	-0.
50.0		0.278	2.500	6.750	7.500	10.500	15.750	50.0		3.000	8.000	7.500	8.000	10.000	10.000
75.0		3.472	7.125	9.625	11.875	16.562	18.625	75.0		8.750	12.500	13.750	12.500	14.167	17.500
90.0		6.167	8.850	14.500	14.750	23.500	23.500	90.0		15.000	15.000	18.333	20.000	20.000	25.000
95.0		8.083	9.425	17.125	19.250	27.125	29.250	95.0		17.500	17.500	25.000	35.000	30.000	35.000
99.0		9.617	9.885	19.425	23.850	29.425	33.850	99.0		19.500	19.500	29.000	39.000	34.000	39.000
NO. OF		23.	23.	23.	23.	23.	23.	NO. OF		20.	20.	20.	20.	20.	20.
OBS.		23.	23.	23.	23.	23.	23.	OBS.		20.	20.	20.	20.	20.	20.

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		135 TO 180 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		180 TO 225 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-4.875	-4.250	-4.625	-4.250	-4.250	-4.250	1.0		-9.450	-9.450	-9.450	-9.450	-9.450	-8.900
5.0		-4.375	-1.250	-3.125	-1.250	-1.250	-1.250	5.0		-7.250	-7.250	-7.250	-7.250	-7.250	-4.975
10.0		-3.750	0.357	-1.250	1.250	5.500	2.500	10.0		-4.800	-4.800	-4.000	-4.667	-4.000	-3.500
25.0		-1.875	1.964	2.188	5.536	7.750	7.188	25.0		-1.500	-1.500	2.500	0.833	2.500	0.833
50.0		1.250	4.843	7.500	8.214	11.500	11.875	50.0		3.333	2.857	7.500	8.750	7.500	6.667
75.0		4.375	10.417	13.750	11.250	15.313	18.125	75.0		8.500	11.250	12.500	13.750	12.083	9.722
90.0		7.500	14.167	17.500	13.500	18.125	26.250	90.0		13.000	19.500	19.000	19.500	14.833	14.667
95.0		8.750	16.250	18.750	14.250	19.082	28.125	95.0		14.833	22.250	24.500	22.250	17.250	19.500
99.0		9.750	19.250	19.750	14.850	19.812	29.625	99.0		18.900	24.450	26.900	24.450	19.450	23.900
NO. OF		15.	15.	15.	15.	15.	15.	NO. OF		22.	22.	22.	22.	22.	22.
OBS.		15.	15.	15.	15.	15.	15.	OBS.		22.	22.	22.	22.	22.	22.

TABLE XI b (Cont'd)

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTIMETER		6 TO 10 (KM)		10 TO 225 (DEG)		180 TO 225 (DEG)		6 TO 10 (KM)		225 TO 270 (DEG)		
PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-13.750	-16.750	-19.375	-23.750	-16.750	-19.687	1.0	-9.260	-6.400	-4.760	-8.200	-6.400
5.0	-8.750	-9.375	-16.875	-18.750	-14.792	-16.437	5.0	-6.400	-4.769	-3.917	-3.800	-4.111
10.0	-4.167	-6.250	-14.167	-14.500	-13.750	-16.875	10.0	-4.214	-3.385	-2.417	-2.600	-2.111
25.0	2.083	-0.937	-9.107	-10.750	-10.625	-11.250	25.0	-0.357	0.625	1.923	1.500	2.333
50.0	6.607	6.875	-4.375	-4.375	-2.917	-2.500	50.0	3.864	6.111	7.083	7.619	8.571
75.0	8.839	13.125	7.750	4.583	3.438	3.750	75.0	8.250	11.667	11.667	13.077	14.500
90.0	10.833	20.833	13.750	5.375	16.250	13.750	90.0	13.167	16.500	17.333	16.625	22.800
95.0	12.917	22.917	16.875	13.750	19.375	16.875	95.0	17.333	23.000	21.000	22.333	30.667
99.0	14.583	24.583	19.375	23.750	23.750	19.375	99.0	23.200	36.200	31.400	31.400	36.400
NO. OF OBS.	25.	25.	25.	25.	25.	25.	NO. OF OBS.	72.	72.	72.	72.	72.

FOR MONTH OF NOVEMBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTIMUDE 6 TO 10 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT LEVELS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-9.500	-14.500	-14.875	-19.833	-24.500	1.0	-12.929	-14.591	-14.136	-14.500	-15.167
5.0	-7.500	-12.500	-14.375	-19.167	-22.500	5.0	-8.026	-9.712	-9.457	-9.375	-9.934
10.0	0.000	-5.000	-13.750	-18.333	-20.000	10.0	-4.792	-6.923	-6.304	-6.786	-8.026
25.0	2.500	-1.250	-11.875	-15.833	-14.375	25.0	-1.771	-1.436	-0.427	-0.705	-2.990
50.0	7.500	3.333	-5.000	-10.000	-11.250	50.0	2.527	4.758	6.316	6.136	3.559
75.0	11.875	7.500	2.500	-6.875	-7.500	75.0	6.866	9.633	11.833	13.162	11.058
90.0	13.750	10.000	10.000	10.000	-5.000	90.0	9.930	14.750	16.261	21.000	20.000
95.0	14.375	12.500	12.500	12.500	2.500	95.0	13.750	20.313	24.643	26.250	24.931
99.0	14.875	14.500	14.500	14.500	4.500	99.0	22.625	29.100	30.500	34.100	33.167
NO. OF OBS.	10.	10.	10.	10.	10.	NO. OF OBS.	290.	290.	290.	290.	290.

TABLE XI b (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 40 TO 50 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-14.864	-19.111	-20.637	-19.645	-19.562	-19.909	1.0	-32.725	-30.450	-35.450	-38.483	1.0	-32.725	-30.450	-35.450	-38.483	-38.862
5.0	-10.986	-14.510	-15.196	-16.321	-15.456	-17.324	5.0	-23.893	-24.592	-29.225	-29.394	5.0	-23.893	-24.592	-29.225	-29.394	-34.312
10.0	-8.420	-11.020	-12.988	-13.434	-13.107	-14.387	10.0	-20.643	-23.395	-26.950	-27.458	10.0	-20.643	-23.395	-26.950	-27.458	-29.577
25.0	-3.960	-5.457	-7.101	-7.207	-7.737	-8.538	25.0	-12.187	-19.766	-22.132	-23.062	25.0	-12.187	-19.766	-22.132	-23.062	-24.327
50.0	0.156	-0.030	0.591	-1.134	-1.442	-1.796	50.0	-4.375	-12.321	-16.310	-16.719	50.0	-4.375	-12.321	-16.310	-16.719	-16.806
75.0	5.855	7.523	9.306	9.267	7.351	5.699	75.0	1.875	-1.917	-5.469	-7.292	75.0	1.875	-1.917	-5.469	-7.292	-4.886
90.0	11.109	14.648	16.139	15.861	17.346	14.278	90.0	7.722	8.500	8.250	5.750	90.0	7.722	8.500	8.250	5.750	4.833
95.0	14.902	21.109	21.614	20.981	23.517	18.566	95.0	10.750	13.063	22.250	17.417	95.0	10.750	13.063	22.250	17.417	13.063
99.0	23.775	27.517	29.650	29.388	30.850	29.388	99.0	25.450	35.450	37.725	35.450	99.0	25.450	35.450	37.725	35.450	22.725
NO. OF							NO. OF					NO. OF					
OBS.	349.	349.	349.	349.	349.	349.	OBS.	91.	91.	91.	91.	OBS.	91.	91.	91.	91.	91.

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 50 TO 60 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-23.600	-23.467	-27.700	-28.467	-28.850	-31.933	1.0	-29.150	-39.575	-39.717	-39.787	1.0	-29.150	-39.575	-39.717	-39.787	-39.575
5.0	-14.647	-19.111	-21.750	-24.000	-24.750	-26.900	5.0	-25.750	-35.750	-37.875	-38.583	5.0	-25.750	-35.750	-37.875	-38.583	-37.875
10.0	-11.941	-16.556	-18.897	-21.125	-22.833	-23.312	10.0	-21.500	-29.333	-35.750	-37.167	10.0	-21.500	-29.333	-35.750	-37.167	-35.750
25.0	-6.613	-11.667	-14.219	-16.250	-17.200	-16.731	25.0	-11.500	-20.833	-19.643	-23.125	25.0	-11.500	-20.833	-19.643	-23.125	-31.250
50.0	-1.471	-5.000	-7.286	-9.194	-9.605	-9.625	50.0	-0.833	-5.000	-13.889	-16.250	50.0	-0.833	-5.000	-13.889	-16.250	-17.500
75.0	5.000	3.158	-0.	1.250	-1.944	-2.187	75.0	3.750	0.833	-1.250	-5.833	75.0	3.750	0.833	-1.250	-5.833	-5.833
90.0	10.727	11.636	9.882	12.556	9.200	8.200	90.0	9.333	9.333	7.000	12.667	90.0	9.333	9.333	7.000	12.667	6.500
95.0	14.909	16.500	16.000	17.400	13.400	13.167	95.0	13.250	16.500	9.125	16.500	95.0	13.250	16.500	9.125	16.500	11.500
99.0	23.950	25.400	25.800	25.400	25.400	20.800	99.0	23.300	33.300	18.300	23.300	99.0	23.300	33.300	18.300	23.300	23.300
NO. OF							NO. OF					NO. OF					
OBS.	184.	184.	184.	184.	184.	184.	OBS.	34.	34.	34.	34.	OBS.	34.	34.	34.	34.	34.

TABLE XI b (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)										
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)										
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS										
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72					
1.0	-6.637	-8.910	-9.394	-8.637	-8.910	-7.275	1.0	-17.175	-21.740	-22.175	-24.058	-24.070	-23.518	5.0	-12.543	-14.386	-17.026	-19.175	-19.365	-19.086		
5.0	-4.793	-4.913	-6.972	-4.685	-4.859	-3.768	10.0	-9.623	-12.057	-14.000	-15.100	-16.231	-16.276	25.0	-5.615	-7.604	-8.918	-8.904	-9.219	-9.500		
10.0	-4.014	-3.865	-4.500	-3.500	-3.116	-1.821	50.0	-1.754	-2.143	-2.212	-1.967	-1.985	-1.846	75.0	3.242	5.739	6.648	7.500	7.132	6.280		
25.0	-1.679	-0.721	-0.197	0.114	2.232	3.750	90.0	6.474	12.375	14.217	16.222	17.000	15.583	95.0	11.469	16.321	18.969	21.350	24.850	24.071		
50.0	2.672	5.633	6.953	10.096	10.357	9.700	99.0	16.740	26.233	31.850	31.850	35.925	34.783	NO. OF			OBS.					
75.0	7.148	11.080	13.875	16.094	18.229	19.250								326.	326.	326.	326.	326.	326.	326.		
90.0	9.703	14.795	22.929	26.500	25.917	28.417																
95.0	12.219	18.792	27.550	30.917	30.688	35.458																
99.0	14.944	27.275	37.275	38.183	37.275	39.092																
NO. OF			109.	109.	109.	109.	OBS.			326.	326.	326.	326.									

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 30 TO 40 (M/SEC)													
ALTITUDE 6 TO 10 (KM)			6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)													
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)													
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72											
1.0	-12.931	-13.727	-14.859	-14.672	-15.862	-14.940	1.0	-27.275	-28.183	-29.775	-32.275	-29.319	-34.775	5.0	-14.517	-23.469	-23.886	-27.125	-26.594	-26.639		
5.0	-9.090	-9.652	-9.729	-11.362	-11.862	-12.394	10.0	-12.700	-20.062	-21.409	-23.389	-24.033	-25.611	25.0	-6.711	-12.279	-13.807	-15.341	-17.875	-16.542		
10.0	-7.330	-8.029	-7.968	-8.933	-9.108	-9.544	50.0	-4.397	-5.937	-7.812	-9.306	-6.295	-9.625	75.0	0.563	1.979	0.875	-0.481	0.536	1.250		
25.0	-3.626	-3.684	-3.401	-4.258	-4.295	-4.190	90.0	6.722	7.644	10.100	11.100	16.375	15.083	95.0	9.750	9.547	15.688	16.938	24.250	19.625		
50.0	0.540	1.199	2.765	3.533	4.797	3.989	99.0	14.888	24.550	22.275	29.550	32.275	37.275	NO. OF			OBS.					
75.0	5.373	7.309	8.750	10.679	11.906	12.473								109.	109.	109.	109.	109.	109.	109.		
90.0	9.728	13.086	14.090	16.904	19.611	20.265																
95.0	12.690	17.271	20.321	20.375	24.014	25.281																
99.0	17.113	24.181	29.779	33.363	34.690	34.742																
NO. OF			331.	331.	331.	331.	OBS.			331.	331.	331.	331.									

TABLE XI b (Cont'd)

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		40 TO		50 (M/SEC)		FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		10 TO		20 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		315 TO		360 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)										WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS								PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72			LEVELS		12	24	36	48	60	72		
1.0		-19.425	-29.425	-33.850	-39.425	-38.850	-38.850			1.0		-12.675	-15.350	-10.350	-15.350	-14.225	-14.336		
5.0		-17.125	-27.125	-29.812	-37.125	-34.812	-34.625			5.0		-9.172	-11.350	-9.170	-11.950	-11.125	-11.679		
10.0		-14.750	-24.250	-28.375	-34.250	-33.375	-31.750			10.0		-7.719	-8.821	-8.114	-9.361	-8.969	-9.425		
25.0		-11.875	-17.083	-23.125	-27.812	-28.125	-25.417			25.0		-4.344	-4.508	-4.955	-5.486	-4.811	-5.937		
50.0		-5.625	-11.786	-12.500	-15.833	-13.750	-11.875			50.0		-1.437	-0.985	-0.804	0.192	-1.288	-0.568		
75.0		0.417	-1.875	-3.437	-4.583	-1.250	-3.750			75.0		3.264	5.795	7.303	9.839	6.979	8.594		
90.0		8.500	14.250	3.500	3.500	14.250	28.500			90.0		7.567	11.958	12.643	14.458	16.750	18.357		
95.0		12.125	19.250	14.250	9.250	24.250	34.250			95.0		9.117	13.896	17.250	18.350	23.350	23.917		
99.0		14.425	23.850	18.850	18.850	28.850	38.850			99.0		15.350	22.675	25.350	35.350	35.350	38.450		
NO. OF										NO. OF									
OBS.		23.	23.	23.	23.	23.	23.			OBS.		93.	93.	93.	93.	93.	93.		

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		0 TO		10 (M/SEC)		FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		20 TO		30 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		315 TO		360 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		315 TO		360 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)										WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS								PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72			LEVELS		12	24	36	48	60	72		
1.0		-9.087	-8.175	-9.087	-9.392	-9.392	-9.479			1.0		-14.567	-18.700	-23.700	-22.400	-19.133	-22.400		
5.0		-5.437	-4.725	-5.437	-6.958	-6.958	-7.393			5.0		-12.833	-14.571	-18.500	-14.625	-15.667	-17.333		
10.0		-4.389	-4.117	-4.250	-4.618	-4.594	-4.900			10.0		-10.667	-12.714	-13.500	-13.000	-13.778	-14.000		
25.0		-2.361	-2.292	-1.761	-1.397	-1.172	-1.250			25.0		-6.818	-8.462	-8.214	-8.846	-9.375	-8.636		
50.0		1.100	1.607	5.132	3.750	6.023	7.045			50.0		-3.043	-3.947	-3.667	-4.000	-2.273	-2.500		
75.0		4.750	8.125	9.934	9.297	10.341	14.519			75.0		-0.217	-0.526	1.250	1.250	5.833	12.500		
90.0		8.233	13.563	16.700	15.875	16.750	24.250			90.0		4.250	7.000	7.250	9.000	13.500	18.400		
95.0		9.450	16.688	20.438	21.750	30.875	29.188			95.0		8.500	11.750	12.000	13.500	17.333	19.700		
99.0		21.350	21.350	24.088	36.350	38.175	33.783			99.0		13.700	14.350	22.400	18.700	27.400	23.700		
NO. OF										NO. OF									
OBS.		73.	73.	73.	73.	73.	73.			OBS.		52.	52.	52.	52.	52.	52.		

TABLE XI b (Cont'd)

FOR MONTH OF		NOVEMBER		INITIAL WIND SPEED		30 TO	40 (M/SEC)
ALTITUDE		6 TO	10 (KM)	INITIAL DIRECTION		315 TO	360 (DEG)
WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	
1.0	-19.667	-24.500	-34.000	-29.500	-29.500	-29.000	
5.0	-18.333	-22.500	-30.000	-27.500	-27.500	-25.000	
10.0	-16.667	-20.000	-25.000	-20.000	-25.000	-20.000	
25.0	-13.000	-16.250	-17.500	-17.637	-17.500	-16.250	
50.0	-4.375	-7.500	-10.000	-12.500	-12.500	-11.667	
75.0	-1.250	-1.250	-1.250	-5.000	-5.000	-5.000	
90.0	2.500	3.333	7.500	5.000	15.000	15.000	
95.0	5.000	10.000	10.000	15.000	17.500	30.000	
99.0	9.000	14.000	14.000	19.000	19.500	34.000	
NO. OF							
OBS.	20.	20.	20.	20.	20.	20.	

TABLE XI c

November, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 30 TO 40 (M/SEC)				
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 180 TO 225 (DEG)				
				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72		24	36	48	60	72
1.0	-9.850	-13.800	-13.800	-18.800	-13.800	-9.400		-14.725	-19.450	-19.450	-14.450	-19.450
5.0	-9.250	-9.800	-9.667	-9.667	-9.750	-7.000		-13.625	-17.250	-17.250	-12.250	-17.250
10.0	-8.500	-8.600	-7.667	-7.667	-8.250	-4.600		-12.250	-9.500	-14.750	-9.750	-9.833
25.0	-6.250	-5.000	-3.750	-3.000	-4.167	-1.000		-6.250	-1.250	-10.625	-5.625	-7.083
50.0	-2.778	0.	0.	3.750	1.667	5.000		1.875	4.167	0.625	-2.500	-3.125
75.0	1.667	4.286	7.500	8.571	13.750	22.000		6.250	7.613	4.063	0.625	5.625
90.0	7.667	9.333	11.500	14.000	21.000	26.500		14.500	9.675	9.500	4.750	9.750
95.0	9.667	14.000	14.500	17.000	23.000	29.500		17.250	12.250	12.250	7.250	12.250
99.0	13.800	28.800	23.800	19.400	24.600	38.800		19.450	14.450	14.450	9.450	14.450
NO. OF OBS.	24.	24.	24.	24.	24.	24.		11.	11.	11.	11.	11.

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)				
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 0 TO 45 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)				
				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72		24	36	48	60	72
1.0	-19.200	-24.200	-14.867	-19.800	-19.867	-19.733		-4.700	-4.400	-4.400	-4.400	0.600
5.0	-16.000	-21.000	-14.333	-19.000	-19.333	-18.667		-3.500	-2.000	-4.000	-2.000	3.000
10.0	-14.000	-18.500	-13.667	-18.000	-18.667	-17.333		-1.000	0.333	-3.000	0.500	6.000
25.0	-10.000	-14.000	-11.667	-15.000	-16.667	-13.750		1.250	3.333	0.	5.000	15.000
50.0	-7.143	-10.000	-8.750	-9.286	-8.750	-8.750		5.000	11.250	12.500	17.500	19.000
75.0	-3.333	-5.000	-6.250	-6.429	-3.333	-2.500		11.667	15.000	25.000	27.500	23.333
90.0	2.000	-1.000	-4.000	-4.000	2.000	7.000		14.667	19.500	32.000	34.000	29.500
95.0	6.000	1.000	-2.000	-2.000	6.000	11.000		22.000	22.000	33.500	37.000	37.000
99.0	9.200	4.200	-0.400	-0.400	9.200	14.200		24.400	24.400	34.700	39.400	39.400
NO. OF OBS.	16.	16.	16.	16.	16.	16.		12.	12.	12.	12.	12.

TABLE XI c (Cont'd)

FOR MONTH OF NOVEMBER							INITIAL WIND SPEED 10 TO 20 (M/SEC)							INITIAL WIND SPEED 30 TO 40 (M/SEC)						
ALTITUDE 11 TO 15 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT							PERCENT							PERCENT						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-6.483	-9.090	-7.725	-7.725	-5.450	-10.450	1.0	-19.670	-22.783	-26.340	-26.675	-24.746	-26.337	1.0	-19.670	-22.783	-26.340	-26.675	-24.746	-26.337
5.0	-4.516	-5.450	-3.583	-3.179	-0.562	-5.562	5.0	-13.795	-17.310	-18.175	-19.312	-19.558	-22.553	5.0	-13.795	-17.310	-18.175	-19.312	-19.558	-22.553
10.0	-3.094	-2.071	-1.056	0.083	2.929	0.083	10.0	-9.887	-13.806	-14.481	-15.500	-16.038	-18.517	10.0	-9.887	-13.806	-14.481	-15.500	-16.038	-18.517
25.0	0.694	5.144	4.896	7.039	8.359	7.981	25.0	-6.021	-7.978	-9.522	-9.813	-10.580	-11.406	25.0	-6.021	-7.978	-9.522	-9.813	-10.580	-11.406
50.0	4.907	9.519	10.833	13.833	14.375	15.139	50.0	0.227	-1.507	-2.170	-2.632	-3.145	-2.787	50.0	0.227	-1.507	-2.170	-2.632	-3.145	-2.787
75.0	9.450	14.402	16.203	21.932	22.404	22.188	75.0	5.625	6.543	6.755	7.031	6.776	5.160	75.0	5.625	6.543	6.755	7.031	6.776	5.160
90.0	14.542	19.542	24.938	28.450	28.833	29.929	90.0	10.444	13.500	14.357	14.552	14.750	12.136	90.0	10.444	13.500	14.357	14.552	14.750	12.136
95.0	18.450	22.875	28.179	33.625	33.063	33.708	95.0	13.833	19.933	22.850	21.500	19.395	17.591	95.0	13.833	19.933	22.850	21.500	19.395	17.591
99.0	23.483	30.450	37.725	38.863	38.483	38.483	99.0	23.900	30.850	33.425	33.900	30.850	31.700	99.0	23.900	30.850	33.425	33.900	30.850	31.700
NO. OF							NO. OF							NO. OF						
OBS.	91.	91.	91.	91.	91.	91.	OBS.	366.	366.	366.	366.	366.	366.	OBS.	366.	366.	366.	366.	366.	366.

FOR MONTH OF NOVEMBER							INITIAL WIND SPEED 20 TO 30 (M/SEC)							INITIAL WIND SPEED 40 TO 50 (M/SEC)						
ALTITUDE 11 TO 15 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT							PERCENT							PERCENT						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-11.412	-13.442	-14.565	-16.883	-19.456	-19.710	1.0	-26.200	-29.367	-32.800	-32.800	-32.067	-30.600	1.0	-26.200	-29.367	-32.800	-32.800	-32.067	-30.600
5.0	-8.331	-8.886	-9.489	-11.019	-13.550	-15.883	5.0	-19.100	-24.000	-27.000	-24.852	-28.067	-27.167	5.0	-19.100	-24.000	-27.000	-24.852	-28.067	-27.167
10.0	-6.016	-6.712	-6.370	-7.214	-9.196	-10.821	10.0	-14.850	-19.600	-23.000	-23.222	-25.133	-24.182	10.0	-14.850	-19.600	-23.000	-23.222	-25.133	-24.182
25.0	-2.129	-2.354	-1.886	-1.556	-2.301	-2.781	25.0	-9.327	-13.889	-16.538	-18.043	-18.103	-18.400	25.0	-9.327	-13.889	-16.538	-18.043	-18.103	-18.400
50.0	2.537	4.265	5.636	5.991	5.389	4.853	50.0	-5.096	-7.778	-8.939	-9.565	-10.667	-10.500	50.0	-5.096	-7.778	-8.939	-9.565	-10.667	-10.500
75.0	7.479	10.845	12.250	13.567	13.361	12.292	75.0	0.476	-0.556	-0.263	-1.290	-1.471	-1.538	75.0	0.476	-0.556	-0.263	-1.290	-1.471	-1.538
90.0	11.900	17.563	18.813	21.260	21.344	19.060	90.0	8.700	10.400	8.857	15.667	11.750	10.333	90.0	8.700	10.400	8.857	15.667	11.750	10.333
95.0	13.950	21.325	22.883	24.130	27.650	23.712	95.0	13.875	20.143	21.500	23.100	20.333	17.667	95.0	13.875	20.143	21.500	23.100	20.333	17.667
99.0	20.325	30.325	35.217	35.217	36.413	37.130	99.0	18.743	30.600	35.600	31.200	31.200	28.100	99.0	18.743	30.600	35.600	31.200	31.200	28.100
NO. OF							NO. OF							NO. OF						
OBS.	287.	287.	287.	287.	287.	287.	OBS.	176.	176.	176.	176.	176.	176.	OBS.	176.	176.	176.	176.	176.	176.



TABLE XI c (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 50 TO 60 (M/SEC)			INITIAL WIND SPEED 70 TO 80 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-32.150	-32.150	-38.575	-39.050	-37.150	1.0	-34.400	-39.400	-34.700	-39.400	-39.850
5.0	-23.937	-26.150	-29.469	-35.250	-33.844	5.0	-32.000	-37.000	-33.500	-37.000	-39.250
10.0	-20.375	-25.300	-27.687	-31.625	-29.500	10.0	-29.000	-34.000	-32.000	-29.500	-38.500
25.0	-11.250	-14.792	-21.458	-21.750	-23.875	25.0	-12.500	-20.000	-25.000	-30.000	-36.250
50.0	-2.250	-7.167	-12.187	-15.192	-16.389	50.0	-5.000	-5.000	-15.000	-16.667	-25.000
75.0	5.875	2.917	3.958	-2.250	-7.812	75.0	7.500	10.000	-0.	-2.500	-2.500
90.0	10.750	15.375	12.357	17.167	20.500	90.0	12.000	19.000	19.000	22.000	2.000
95.0	16.438	18.938	14.393	22.875	25.375	95.0	13.500	22.000	22.000	23.500	3.500
99.0	19.287	27.150	37.150	28.575	37.150	99.0	14.700	24.400	24.400	24.700	4.700
NO. OF	57.	57.	57.	57.	57.	NO. OF	12.	12.	12.	12.	12.
OBS.	57.	57.	57.	57.	57.	OBS.	12.	12.	12.	12.	12.

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 60 TO 70 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			11 TO 15 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-24.433	-39.575	-39.660	-39.575	-39.757	1.0	-4.783	-8.700	-4.567	-4.350	0.260
5.0	-22.167	-37.875	-38.300	-37.875	-38.786	5.0	-3.917	-4.625	-2.833	-1.750	1.300
10.0	-19.667	-35.750	-36.600	-35.750	-37.371	10.0	-2.833	-3.000	-0.667	0.500	2.600
25.0	-15.417	-20.625	-26.250	-32.187	-33.125	25.0	0.278	1.500	5.357	3.750	10.625
50.0	-4.167	-13.000	-15.000	-22.500	-26.250	50.0	3.889	7.500	10.000	12.500	17.143
75.0	4.375	-0.625	-9.167	-12.500	-19.167	75.0	7.500	12.917	18.125	22.500	24.167
90.0	11.500	8.600	8.000	5.000	-1.000	90.0	9.667	22.333	28.500	32.000	35.667
95.0	16.500	21.500	13.250	15.750	30.750	95.0	13.500	24.500	33.500	36.750	37.833
99.0	23.300	28.300	28.300	19.150	34.150	99.0	18.700	28.700	38.700	39.350	39.567
NO. OF	34.	34.	34.	34.	34.	NO. OF	26.	26.	26.	26.	26.
OBS.	34.	34.	34.	34.	34.	OBS.	26.	26.	26.	26.	26.

TABLE XI c (Cont'd)

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 30 TO 40 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-11.967	-10.450	-9.521	-10.450	-13.633	-9.487		1.0	-21.683	-27.010	-26.379	-30.017	-29.175	-29.381	
5.0	-8.094	-7.042	-7.605	-7.464	-7.167	-4.980		5.0	-13.141	-16.354	-19.703	-23.354	-23.069	-23.625	
10.0	-5.250	-4.400	-5.211	-4.593	-4.037	-3.160		10.0	-9.592	-13.769	-15.031	-18.275	-19.114	-19.672	
25.0	-2.716	-0.500	0.776	0.521	1.250	2.396		25.0	-5.854	-7.716	-9.255	-10.464	-11.179	-12.137	
50.0	1.944	5.405	7.692	9.615	9.531	9.459		50.0	-1.532	-2.130	-2.821	-3.377	-3.669	-4.292	
75.0	7.670	11.917	14.583	17.100	17.168	16.365		75.0	4.534	4.472	5.040	5.607	3.649	4.875	
90.0	11.889	17.316	21.556	24.571	24.929	26.556		90.0	9.359	12.313	13.065	13.357	12.395	13.275	
95.0	14.417	19.711	27.071	28.292	31.583	31.813		95.0	12.662	15.788	17.327	17.875	19.208	20.583	
99.0	18.700	30.450	35.450	38.450	38.180	37.725		99.0	20.017	21.883	26.683	25.025	31.683	36.283	
NO. OF								NO. OF							
OBS.	182.	182.	182.	182.	182.	182.	182.	OBS.	299.	299.	299.	299.	299.	299.	299.

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 40 TO 50 (M/SEC)			
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)			
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS			
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-15.283	-16.462	-20.283	-19.168	-21.170	-19.741		1.0	-31.500	-36.500	-36.250	-37.667	-34.714	-34.600	
5.0	-9.863	-11.462	-13.078	-13.861	-15.283	-14.972		5.0	-17.000	-26.667	-32.000	-30.000	-30.714	-29.615	
10.0	-7.583	-8.554	-8.837	-10.315	-11.481	-11.426		10.0	-13.214	-18.437	-26.429	-26.618	-27.000	-26.923	
25.0	-3.446	-3.372	-2.910	-3.926	-3.873	-4.114		25.0	-8.378	-13.529	-16.000	-18.571	-20.000	-19.737	
50.0	0.809	2.181	3.401	3.074	4.663	3.885		50.0	-3.529	-7.609	-9.800	-9.808	-10.294	-11.458	
75.0	5.777	9.069	10.262	10.986	12.074	11.694		75.0	2.391	1.250	-1.944	-3.455	-0.270	1.667	
90.0	10.283	15.979	17.694	16.738	21.140	20.750		90.0	8.462	8.214	8.125	11.429	13.333	17.500	
95.0	13.475	19.969	21.617	23.645	24.970	26.481		95.0	12.143	12.500	15.000	17.500	23.333	32.000	
99.0	19.407	27.170	30.425	29.623	32.713	37.264		99.0	24.000	28.000	36.500	33.000	36.500	38.250	
NO. OF								NO. OF							
OBS.	383.	383.	383.	383.	383.	383.	383.	OBS.	140.	140.	140.	140.	140.	140.	140.

TABLE XI c (Cont'd)

FOR MONTH OF			NOVEMBER			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED			10 TO			20 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL WIND SPEED 50 TO 60 (M/SEC)			ALTITUDE 11 TO 15 (KM)			INITIAL WIND SPEED 15 TO 15 (KM)			INITIAL WIND SPEED 315 TO 360 (DEG)			INITIAL WIND SPEED 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS 12			24			LEVELS 12			24			36			48			60		
1.0			-38.750			1.0			-9.644			-11.800			-9.200			-11.800		
5.0			-23.750			5.0			-8.222			-4.957			-6.000			-6.333		
10.0			-19.375			10.0			-6.444			-4.261			-3.909			-3.500		
25.0			-14.750			25.0			-3.478			-2.174			0.313			1.250		
50.0			-8.750			50.0			-0.			2.308			5.455			9.000		
75.0			-2.812			75.0			5.909			8.750			16.875			19.375		
90.0			2.500			90.0			10.750			19.600			24.600			29.000		
95.0			4.583			95.0			14.750			23.500			28.500			33.500		
99.0			8.750			99.0			26.800			28.400			36.800			38.400		
NO. OF			25.			NO. OF			64.			64.			64.			64.		
OBS.			25.			OBS.			64.			64.			64.			64.		

FOR MONTH OF			NOVEMBER			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED			20 TO			30 (M/SEC)		
ALTITUDE 11 TO 15 (KM)			INITIAL WIND SPEED 10 TO 10 (M/SEC)			ALTITUDE 11 TO 15 (KM)			INITIAL WIND SPEED 15 TO 15 (KM)			INITIAL WIND SPEED 315 TO 360 (DEG)			INITIAL WIND SPEED 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS					
LEVELS 12			24			LEVELS 12			24			36			48			60		
1.0			-8.700			1.0			-27.550			-19.387			-19.387			-22.550		
5.0			-4.500			5.0			-16.375			-16.937			-16.937			-16.375		
10.0			-2.333			10.0			-13.417			-13.875			-10.500			-12.625		
25.0			1.786			25.0			-8.646			-8.229			-5.469			-2.750		
50.0			6.250			50.0			-3.409			-1.250			-1.167			2.045		
75.0			10.833			75.0			5.972			4.861			4.861			9.792		
90.0			17.333			90.0			10.500			12.750			10.500			21.937		
95.0			19.500			95.0			18.875			18.875			18.875			23.469		
99.0			23.700			99.0			23.775			27.550			37.550			24.694		
NO. OF			26.			NO. OF			49.			49.			49.			49.		
OBS.			26.			OBS.			49.			49.			49.			49.		

TABLE XI c (Cont'd)

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 30 TO 40 (M/SEC)				INITIAL WIND SPEED 40 TO 50 (M/SEC)					
ALTITUDE 11 TO 15 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)					
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-14.233	-27.700	-32.700	-24.671	-27.700	-27.700	1.0	-19.250	-24.250	-29.625	-34.250	-24.750	-34.625
5.0	-11.167	-21.750	-23.500	-23.357	-23.917	-23.375	5.0	-16.250	-21.250	-26.125	-31.250	-23.750	-33.125
10.0	-9.500	-17.333	-19.333	-21.714	-22.000	-20.500	10.0	-14.167	-19.500	-26.250	-23.750	-22.500	-31.250
25.0	-7.344	-13.036	-16.458	-16.786	-17.187	-15.937	25.0	-10.417	-17.250	-22.083	-19.062	-16.125	-16.250
50.0	-3.667	-7.000	-9.231	-11.538	-11.923	-10.455	50.0	-6.500	-12.500	-13.750	-14.167	-11.875	-10.625
75.0	0.625	0.313	-4.375	-3.125	-2.500	-1.591	75.0	-2.750	-4.375	-3.750	-6.875	-7.187	2.813
90.0	7.833	4.625	3.400	8.000	7.000	8.500	90.0	-0.500	1.250	3.750	-1.250	-2.500	11.250
95.0	9.750	7.833	8.500	13.500	12.833	12.833	95.0	1.250	3.125	6.250	1.250	6.250	13.125
99.0	13.850	12.700	17.700	22.700	17.700	22.700	99.0	4.250	4.625	9.250	4.250	9.250	14.625
NO. OF							NO. OF						
OBS.	46.	46.	46.	46.	46.	46.	OBS.	15.	15.	15.	15.	15.	15.

# November, 16 to 20 Kilometer Layer WindSpeed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

[illegible]

FOR MONTH OF NOVEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)			
ALTITUDE 16 TO 20 (KM)		INITIAL DIRECTION 0 TO 45 (DEG)		INITIAL DIRECTION 0 TO 45 (DEG)		INITIAL DIRECTION 0 TO 45 (DEG)		INITIAL DIRECTION 0 TO 45 (DEG)		INITIAL DIRECTION 0 TO 45 (DEG)	
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT LEVELS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS		ELAPSED TIME IN HOURS	
12	24	36	48	60	72	12	24	36	48	60	72
1.0	-14.500	-9.929	-9.950	-14.500	-14.500	1.0	-8.850	-9.233	-9.617	-9.425	-9.233
5.0	-12.500	-9.643	-9.750	-12.500	-12.500	5.0	-4.935	-6.167	-8.083	-7.125	-6.167
10.0	-10.000	-9.286	-9.500	-10.000	-10.000	10.0	-4.435	-4.600	-6.167	-4.857	-4.556
25.0	-6.250	-8.214	-6.750	-9.062	-8.929	25.0	-2.935	-2.875	-3.625	-3.214	-2.639
50.0	-3.000	-6.429	-7.500	-7.500	-7.143	50.0	-0.435	-0.	-0.750	-0.476	0.500
75.0	-0.500	-4.167	-6.250	-5.937	-5.357	75.0	2.375	2.738	3.036	3.167	3.375
90.0	2.500	-1.667	-5.500	0.000	10.000	90.0	4.100	4.381	6.400	6.400	6.000
95.0	3.750	-0.833	-5.250	7.500	12.500	95.0	4.675	4.929	8.700	8.700	11.750
99.0	4.750	-0.167	-5.050	9.500	14.500	99.0	7.700	8.850	12.700	12.700	17.700
NO. OF OBS.	10.	10.	10.	10.	10.	NO. OF OBS.	46.	46.	46.	46.	46.

TABLE XI d (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 25 (M/SEC)			INITIAL WIND SPEED 25 TO 270 (M/SEC)			INITIAL WIND SPEED 270 TO 285 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 160 TO 200 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 270 TO 285 (DEG)		
PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)			PERCENT			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)		
LEVELS 12 24 36 48 60 72			1.0 -7.600 -7.600 -7.600 -7.600 -4.800 -4.800			-4.800 -4.800 -4.800 -4.800 -4.800 -4.800			LEVELS 12 24 36 48 60 72			1.0 -14.500 -14.000 -14.000 -14.000 -14.000 -14.000			-14.000 -14.000 -14.000 -14.000 -14.000 -14.000			LEVELS 12 24 36 48 60 72			1.0 -14.500 -14.000 -14.000 -14.000 -14.000 -14.000			-14.000 -14.000 -14.000 -14.000 -14.000 -14.000		
1.0 -4.696 -4.667 -4.611 -4.667 -4.000 -4.250			-4.000 -4.250 -4.250 -4.250 -4.250 -4.250			-4.250 -4.250 -4.250 -4.250 -4.250 -4.250			5.0 -12.500 -10.000 -10.000 -10.000 -10.000 -10.000			-10.000 -10.000 -10.000 -10.000 -10.000 -10.000			-10.000 -10.000 -10.000 -10.000 -10.000 -10.000			5.0 -12.500 -10.000 -10.000 -10.000 -10.000 -10.000			-10.000 -10.000 -10.000 -10.000 -10.000 -10.000					
10.0 -4.174 -4.095 -3.944 -4.095 -3.000 -3.500			-3.000 -3.500 -3.500 -3.500 -3.500 -3.500			-3.500 -3.500 -3.500 -3.500 -3.500 -3.500			10.0 -10.000 -8.750 -8.750 -8.750 -8.750 -8.750			-8.750 -8.750 -8.750 -8.750 -8.750 -8.750			-8.750 -8.750 -8.750 -8.750 -8.750 -8.750			10.0 -10.000 -8.750 -8.750 -8.750 -8.750 -8.750			-8.750 -8.750 -8.750 -8.750 -8.750 -8.750					
25.0 -2.609 -2.381 -1.944 -2.381 -0. -1.250			-1.250 -1.250 -1.250 -1.250 -1.250 -1.250			-1.250 -1.250 -1.250 -1.250 -1.250 -1.250			25.0 -7.000 -5.000 -5.000 -5.000 -5.000 -5.000			-5.000 -5.000 -5.000 -5.000 -5.000 -5.000			-5.000 -5.000 -5.000 -5.000 -5.000 -5.000			25.0 -7.000 -5.000 -5.000 -5.000 -5.000 -5.000			-5.000 -5.000 -5.000 -5.000 -5.000 -5.000					
50.0 -0. 0.476 1.316 0.588 2.809 2.222			2.222 2.222 2.222 2.222 2.222 2.222			2.222 2.222 2.222 2.222 2.222 2.222			50.0 -1.250 -0. -1.429 -2.000 -1.667 -2.000			-2.000 -2.000 -2.000 -2.000 -2.000 -2.000			-2.000 -2.000 -2.000 -2.000 -2.000 -2.000			50.0 -1.250 -0. -1.429 -2.000 -1.667 -2.000			-2.000 -2.000 -2.000 -2.000 -2.000 -2.000					
75.0 2.857 3.333 4.474 4.118 5.500 6.111			6.111 6.111 6.111 6.111 6.111 6.111			6.111 6.111 6.111 6.111 6.111 6.111			75.0 4.000 3.971 3.000 10.000 5.000 5.000			3.000 10.000 10.000 10.000 10.000 10.000			3.000 10.000 10.000 10.000 10.000 10.000			75.0 4.000 3.971 3.000 10.000 5.000 5.000			3.000 10.000 10.000 10.000 10.000 10.000					
90.0 4.371 5.333 7.600 8.000 9.100 10.333			10.333 10.333 10.333 10.333 10.333 10.333			10.333 10.333 10.333 10.333 10.333 10.333			90.0 10.000 7.500 10.000 13.750 10.000 8.750			10.000 13.750 10.000 15.000 20.000 10.000			10.000 13.750 10.000 15.000 20.000 10.000			90.0 10.000 7.500 10.000 13.750 10.000 8.750			10.000 13.750 10.000 15.000 20.000 10.000					
95.0 6.000 9.333 8.800 9.714 11.000 14.333			14.333 14.333 14.333 14.333 14.333 14.333			14.333 14.333 14.333 14.333 14.333 14.333			95.0 12.500 10.000 20.000 15.000 20.000 10.000			10.000 15.000 20.000 15.000 20.000 10.000			10.000 15.000 20.000 15.000 20.000 10.000			95.0 12.500 10.000 20.000 15.000 20.000 10.000			10.000 15.000 20.000 15.000 20.000 10.000					
99.0 9.200 13.800 9.760 22.600 14.200 16.800			16.800 16.800 16.800 16.800 16.800 16.800			16.800 16.800 16.800 16.800 16.800 16.800			99.0 14.500 14.000 24.000 19.000 24.000 14.000			14.000 19.000 24.000 19.000 24.000 14.000			14.000 19.000 24.000 19.000 24.000 14.000			99.0 14.500 14.000 24.000 19.000 24.000 14.000			14.000 19.000 24.000 19.000 24.000 14.000					
NO. OF			OBS.			OBS.			NO. OF			OBS.			OBS.			NO. OF			OBS.			OBS.		
48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.			48. 48. 48. 48. 48. 48.		

TABLE XI d (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)								
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72			
1.0	-12.586	-13.122	-14.256	-14.433	-14.744	-14.744	1.0	-27.950	-24.317	-22.950	-26.975	-26.975	-32.950	1.0	-27.950	-24.317	-22.950	-26.975	-26.975	-32.950			
5.0	-8.947	-9.295	-10.031	-11.214	-12.241	-12.241	5.0	-23.250	-21.563	-19.475	-24.917	-24.917	-24.250	5.0	-23.250	-21.563	-19.475	-24.917	-24.917	-24.250			
10.0	-7.149	-7.766	-8.645	-8.946	-9.564	-9.593	10.0	-19.833	-19.214	-18.450	-21.500	-21.500	-22.766	10.0	-19.833	-19.214	-18.450	-21.500	-21.500	-22.766			
25.0	-3.697	-4.106	-4.750	-4.665	-4.975	-5.297	25.0	-12.679	-14.750	-15.375	-15.625	-16.750	-17.750	25.0	-12.679	-14.750	-15.375	-15.625	-16.750	-17.750			
50.0	-0.085	-0.229	-0.909	-0.309	-0.792	-0.598	50.0	-6.750	-7.708	-9.792	-11.607	-11.458	-10.833	50.0	-6.750	-7.708	-9.792	-11.607	-11.458	-10.833			
75.0	4.741	5.313	5.694	5.721	6.009	5.611	75.0	-0.179	-2.321	-5.521	-5.893	-6.932	-5.625	75.0	-0.179	-2.321	-5.521	-5.893	-6.932	-5.625			
90.0	8.850	9.839	10.913	11.240	11.238	12.000	90.0	6.125	3.625	3.167	-0.917	-3.100	-0.917	90.0	6.125	3.625	3.167	-0.917	-3.100	-0.917			
95.0	10.969	13.595	14.587	14.620	15.367	15.036	95.0	8.688	7.375	6.583	4.750	-1.050	4.750	95.0	8.688	7.375	6.583	4.750	-1.050	4.750			
99.0	16.033	21.033	21.033	21.033	19.873	19.864	99.0	12.950	17.950	9.317	12.950	7.950	8.975	99.0	12.950	17.950	9.317	12.950	7.950	8.975			
NO. OF							NO. OF							NO. OF									
OBS.	338.	338.	338.	338.	338.	338.	OBS.	41.	41.	41.	41.	41.	41.	OBS.	41.	41.	41.	41.	41.	41.			

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)								
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)								
PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS			PERCENT	ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72			
1.0	-18.794	-20.175	-19.668	-20.175	-21.783	-23.450	1.0	-8.611	-8.504	-9.074	-8.856	-8.784	-8.611	1.0	-8.611	-8.504	-9.074	-8.856	-8.784	-8.611			
5.0	-13.969	-14.566	-16.911	-17.450	-18.153	-18.655	5.0	-4.846	-4.789	-5.369	-4.921	-4.863	-4.813	5.0	-4.846	-4.789	-5.369	-4.921	-4.863	-4.813			
10.0	-9.431	-12.026	-14.104	-14.603	-15.472	-16.357	10.0	-4.297	-4.154	-4.415	-4.298	-4.221	-4.147	10.0	-4.297	-4.154	-4.415	-4.298	-4.221	-4.147			
25.0	-4.797	-7.409	-8.715	-9.770	-10.458	-11.858	25.0	-2.648	-2.247	-2.508	-2.428	-2.236	-2.149	25.0	-2.648	-2.247	-2.508	-2.428	-2.236	-2.149			
50.0	-1.781	-2.260	-3.147	-4.803	-5.260	-5.338	50.0	0.117	0.956	0.820	0.995	1.313	1.527	50.0	0.117	0.956	0.820	0.995	1.313	1.527			
75.0	2.532	3.640	2.260	1.780	0.750	-0.133	75.0	3.381	4.220	4.710	3.757	5.673	6.172	75.0	3.381	4.220	4.710	3.757	5.673	6.172			
90.0	7.694	8.397	8.063	7.567	7.265	6.382	90.0	6.295	6.134	8.931	5.866	10.318	9.819	90.0	6.295	6.134	8.931	5.866	10.318	9.819			
95.0	10.750	10.292	10.219	11.068	10.194	9.221	95.0	8.788	9.871	11.632	13.250	13.265	13.310	95.0	8.788	9.871	11.632	13.250	13.265	13.310			
99.0	15.175	17.588	15.175	14.577	14.483	14.225	99.0	16.850	18.686	17.936	20.183	21.388	22.592	99.0	16.850	18.686	17.936	20.183	21.388	22.592			
NO. OF							NO. OF							NO. OF									
OBS.	193.	193.	193.	193.	193.	193.	OBS.	389.	389.	389.	389.	389.	389.	OBS.	389.	389.	389.	389.	389.	389.			

TABLE XI d (Cont'd)

FOR MONTH OF				NOVEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				FOR MONTH OF				NOVEMBER				INITIAL WIND SPEED 30 TO 40 (M/SEC)																																							
ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)				ALTITUDE 16 TO 20 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)																																							
PERCENT				ELAPSED TIME IN HOURS				PERCENT				PERCENT				ELAPSED TIME IN HOURS				PERCENT																																							
LEVELS 12				24				36				LEVELS 12				24				36				LEVELS 12				24				36																											
1.0				-9.987				-12.689				-13.613				-13.776				-14.168				-14.400				1.0				-14.675				-19.567				-19.675				-23.700				72				-28.700							
5.0				-8.645				-9.132				-9.642				-9.747				-9.952				-9.951				5.0				-13.375				-17.833				-18.375				-19.786				-23.500											
10.0				-6.966				-7.603				-8.358				-8.360				-8.714				-8.663				10.0				-11.750				-15.667				-16.750				-18.857				-19.500											
25.0				-3.939				-4.100				-4.708				-4.531				-5.000				-4.921				25.0				-8.611				-12.063				-13.250				-13.437				-16.071				-16.250							
50.0				-1.034				-0.633				-0.912				-0.469				-0.702				-0.627				50.0				-5.000				-7.776				-10.000				-9.167				-10.833											
75.0				3.102				3.899				4.115				4.310				4.688				5.000				75.0				-1.750				-3.750				-2.500				-3.125				-5.417											
90.0				7.140				8.200				9.054				9.679				11.038				11.233				90.0				1.000				-0.500				4.000				4.000				6.000											
95.0				9.220				9.933				12.217				13.308				15.071				14.700				95.0				4.250				3.500				8.500				8.500				9.250											
99.0				14.016				16.050				18.200				21.640				22.840				21.533				99.0				6.700				6.700				13.700				13.700				13.700											
NO. OF				OBS.				416.				416.				416.				416.				NO. OF				OBS.				25.				26.				26.				26.															
																																								</																			



TABLE XI d (Cont'd)

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			20 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-13.650	-12.300	-13.650	-14.100	-14.100	1.0	-9.900	-14.833	-14.833	-19.833	-19.833
5.0	-9.731	-9.433	-9.816	-10.500	-10.500	5.0	-9.500	-14.167	-14.167	-19.167	-19.167
10.0	-8.692	-8.533	-9.105	-9.455	-9.200	10.0	-9.000	-13.333	-13.333	-18.333	-18.333
25.0	-5.577	-5.833	-6.974	-7.614	-6.500	25.0	-7.500	-10.833	-10.833	-15.833	-15.833
50.0	-2.391	-2.708	-3.571	-4.333	-1.250	50.0	-5.000	-7.500	-8.000	-3.333	-1.667
75.0	1.136	0.313	-0.357	0.313	5.938	75.0	-2.500	-4.167	-5.500	1.250	3.750
90.0	4.818	5.500	4.125	5.750	11.600	90.0	-1.000	-1.667	0.000	5.000	7.500
95.0	7.300	7.750	6.625	9.125	14.300	95.0	-0.500	-0.833	2.500	7.500	8.750
99.0	9.460	9.550	9.325	17.300	18.650	99.0	-0.100	-0.167	4.500	9.500	9.750
NO. OF						NO. OF					
OBS.	54.	54.	54.	54.	54.	OBS.	10.	10.	10.	10.	10.

TABLE XI e

November, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 21 TO 25 (KM)	NOVEMBER	21 TO 25 (DEG)	0 TO 45 (DEG)	45 TO 90 (DEG)	90 TO 135 (DEG)	0 TO 45 (DEG)	45 TO 90 (DEG)	90 TO 135 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-8.137	-6.275	-8.936	-9.379	-9.069	-8.936	1.0	-14.467	-14.600	-14.680	-14.840	-19.200
5.0	-4.735	-4.574	-4.963	-6.896	-5.344	-4.952	5.0	-12.333	-13.000	-13.400	-14.200	-16.000
10.0	-4.162	-3.992	-4.352	-4.863	-4.216	-4.160	10.0	-9.889	-11.000	-11.800	-13.400	-14.000
25.0	-2.442	-2.246	-2.520	-2.064	-1.676	-1.782	25.0	-7.222	-6.571	-9.062	-11.000	-10.000
50.0	0.410	0.664	0.560	1.523	1.766	1.633	50.0	-3.750	-5.714	-6.562	-7.273	-8.333
75.0	3.190	3.574	3.772	4.434	4.742	4.637	75.0	-1.250	-2.000	-3.333	-2.637	-5.294
90.0	4.858	6.139	7.531	7.904	8.411	8.232	90.0	1.000	1.333	-0.667	1.333	-2.667
95.0	7.313	8.208	9.659	9.337	9.741	9.563	95.0	3.000	4.000	2.000	4.000	-1.333
99.0	9.796	9.884	10.775	14.183	16.275	13.510	99.0	4.800	8.400	13.400	8.400	-0.267
NO. OF OBS.	149.	149.	149.	149.	149.	149.	NO. OF OBS.	32.	32.	32.	32.	32.

FOR MONTH OF NOVEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 21 TO 25 (KM)	NOVEMBER	21 TO 25 (DEG)	0 TO 45 (DEG)	45 TO 90 (DEG)	90 TO 135 (DEG)	0 TO 45 (DEG)	45 TO 90 (DEG)	90 TO 135 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS		PERCENT	ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	60	72
1.0	-8.694	-9.161	-9.309	-9.440	-9.489	-9.621	1.0	-8.917	-8.700	-9.187	-8.700	-9.409
5.0	-4.890	-5.804	-6.544	-7.202	-7.446	-8.105	5.0	-4.961	-4.893	-5.937	-4.877	-7.045
10.0	-4.420	-4.587	-4.696	-4.893	-4.979	-6.210	10.0	-4.453	-4.429	-4.569	-4.344	-4.796
25.0	-3.010	-3.054	-3.049	-3.387	-3.485	-3.612	25.0	-2.930	-3.036	-2.888	-2.746	-2.806
50.0	-0.660	-0.500	-0.304	-0.876	-0.996	-0.675	50.0	-0.391	-0.714	-0.086	-0.082	0.581
75.0	2.641	2.613	2.640	2.584	2.712	3.057	75.0	2.750	2.885	3.351	3.580	4.360
90.0	4.844	4.911	4.755	4.966	6.250	6.354	90.0	4.700	6.000	6.176	7.333	7.917
95.0	7.891	7.697	7.132	7.961	8.920	8.802	95.0	7.188	8.167	8.088	9.500	9.271
99.0	14.417	11.083	9.697	12.063	13.675	13.650	99.0	11.750	9.900	9.618	14.625	14.250
NO. OF OBS.	235.	235.	235.	235.	235.	235.	NO. OF OBS.	130.	130.	130.	130.	130.

TABLE XI e (Cont'd)

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FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED			INITIAL WIND SPEED			0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION			INITIAL DIRECTION			180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS 12			LEVELS 12			24			24			36		
1.0			1.0			-4.945			-8.979			-8.212		
5.0			5.0			-4.725			-4.989			-4.772		
10.0			10.0			-4.450			-4.471			-4.254		
25.0			25.0			-3.625			-2.917			-2.699		
50.0			50.0			-2.250			-0.326			-0.114		
75.0			75.0			-0.875			3.472			3.644		
90.0			90.0			-0.050			7.406			7.269		
95.0			95.0			2.250			9.641			9.171		
99.0			99.0			4.450			14.570			16.425		
NO. OF			NO. OF			OBS.			OBS.			OBS.		
11.			11.			11.			143.			143.		
OBS.			OBS.			11.			143.			143.		

FOR MONTH OF			NOVEMBER			INITIAL WIND SPEED			INITIAL WIND SPEED			10 TO 20 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION			INITIAL DIRECTION			180 TO 225 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS 12			LEVELS 12			24			24			36		
1.0			1.0			-9.136			-9.940			-14.700		
5.0			5.0			-5.679			-9.700			-13.500		
10.0			10.0			-4.582			-9.400			-12.000		
25.0			25.0			-3.094			-8.500			-9.167		
50.0			50.0			-0.615			-7.000			-6.667		
75.0			75.0			2.708			-5.500			-3.333		
90.0			90.0			4.869			-3.000			-0.333		
95.0			95.0			7.475			-1.500			7.000		
99.0			99.0			9.895			-0.300			9.400		
NO. OF			NO. OF			OBS.			OBS.			OBS.		
121.			121.			121.			12.			12.		
OBS.			OBS.			121.			12.			12.		

TABLE XI e (C ont'd)

FOR MONTH OF NOVEMBER						INITIAL WIND SPEED 0 TO 10 (M/SEC)						FOR MONTH OF NOVEMBER						INITIAL WIND SPEED 20 TO 30 (M/SEC)									
ALTITUDE 21 TO 25 (KM)						INITIAL DIRECTION 225 TO 270 (DEG)						ALTITUDE 21 TO 25 (KM)						INITIAL DIRECTION 225 TO 270 (DEG)									
WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)									
PERCENT						ELAPSED TIME IN HOURS						PERCENT						ELAPSED TIME IN HOURS									
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72				
1.0	-9.002	-8.575	-9.050	-9.002	-9.287	-9.312	1.0	-18.600	-24.300	-24.300	-19.650	-14.844	-23.600	1.0	-18.600	-24.300	-24.300	-19.650	-14.844	-23.600	1.0	-18.600	-24.300	-24.300	-19.650	-14.844	-23.600
5.0	-5.012	-4.839	-5.250	-5.012	-6.437	-6.560	5.0	-14.667	-21.500	-21.500	-16.250	-14.222	-19.000	5.0	-14.667	-21.500	-21.500	-16.250	-14.222	-19.000	5.0	-14.667	-21.500	-21.500	-16.250	-14.222	-19.000
10.0	-4.435	-4.300	-4.489	-4.459	-4.671	-4.707	10.0	-13.500	-16.000	-16.000	-16.500	-13.444	-15.500	10.0	-13.500	-16.000	-16.000	-16.500	-13.444	-15.500	10.0	-13.500	-16.000	-16.000	-16.500	-13.444	-15.500
25.0	-2.734	-2.682	-2.872	-2.833	-3.018	-3.098	25.0	-10.000	-11.667	-12.000	-12.000	-11.111	-11.000	25.0	-10.000	-11.667	-12.000	-12.000	-11.111	-11.000	25.0	-10.000	-11.667	-12.000	-12.000	-11.111	-11.000
50.0	0.124	0.018	-0.176	-0.122	-0.262	-0.417	50.0	-4.000	-5.833	-4.444	-5.000	-5.000	-6.250	50.0	-4.000	-5.833	-4.444	-5.000	-5.000	-6.250	50.0	-4.000	-5.833	-4.444	-5.000	-5.000	-6.250
75.0	3.661	3.659	3.853	3.608	3.792	3.830	75.0	-0.500	-1.667	-0.556	-0.	-1.500	-2.222	75.0	-0.500	-1.667	-0.556	-0.	-1.500	-2.222	75.0	-0.500	-1.667	-0.556	-0.	-1.500	-2.222
90.0	7.046	7.406	7.816	7.511	8.456	8.157	90.0	6.500	5.333	4.000	7.000	5.500	1.000	90.0	6.500	5.333	4.000	7.000	5.500	1.000	90.0	6.500	5.333	4.000	7.000	5.500	1.000
95.0	8.894	9.484	9.566	9.679	11.779	10.021	95.0	8.250	7.667	8.000	9.333	9.000	6.500	95.0	8.250	7.667	8.000	9.333	9.000	6.500	95.0	8.250	7.667	8.000	9.333	9.000	6.500
99.0	12.506	15.017	14.235	15.017	20.013	20.017	99.0	9.650	9.533	18.600	18.600	18.600	9.300	99.0	9.650	9.533	18.600	18.600	18.600	9.300	99.0	9.650	9.533	18.600	18.600	9.300	9.300
NO. OF						NO. OF						NO. OF						NO. OF									
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TABLE XI e (Cont'd)

FOR MONTH OF NOVEMBER													INITIAL WIND SPEED 10 TO 20 (M/SEC)													INITIAL WIND SPEED 0 TO 10 (M/SEC)																																																																																																										
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)					ELAPSED TIME IN HOURS				ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)					ELAPSED TIME IN HOURS																																																																																																						
PERCENT LEVELS				PERCENT LEVELS				PERCENT LEVELS					PERCENT LEVELS				PERCENT LEVELS				PERCENT LEVELS				PERCENT LEVELS					PERCENT LEVELS																																																																																																						
1.0	-13.020	-14.300	-14.555	-14.100	-14.293	-15.050	1.0	-5.750	-7.075	-7.167	-7.075	-6.583	-9.227	1.0	-5.750	-7.075	-7.167	-7.075	-6.583	-9.227	5.0	-4.443	-9.750	-10.955	-10.500	-11.464	-9.606	5.0	-4.583	-4.729	-4.633	-4.696	-4.798	-6.136	10.0	-8.318	-8.447	-9.133	-9.043	-9.396	-8.796	10.0	-4.038	-4.217	-4.067	-4.122	-4.113	-4.516	25.0	-4.975	-4.803	-5.833	-5.815	-6.302	-5.765	25.0	-2.404	-2.681	-2.367	-2.399	-2.056	-2.460	50.0	-2.475	-2.022	-2.586	-2.558	-2.658	-2.083	50.0	0.362	-0.120	0.603	0.547	1.371	1.154	75.0	0.078	1.406	0.549	0.764	0.987	2.267	75.0	3.442	3.320	4.267	3.867	4.798	5.357	90.0	4.719	4.500	4.171	4.889	4.895	6.476	90.0	6.111	6.136	8.696	8.235	8.485	9.000	95.0	7.382	6.962	6.409	8.033	8.792	8.633	95.0	8.472	8.068	11.136	11.389	9.773	10.833	99.0	9.712	10.100	10.050	13.367	14.183	13.775	99.0	12.167	9.614	14.227	15.750	13.786	14.611
NO. OF OBS.				NO. OF OBS.				NO. OF OBS.					NO. OF OBS.				NO. OF OBS.				NO. OF OBS.					NO. OF OBS.																																																																																																										
198.				198.				198.					198.				198.				198.					198.																																																																																																										

FOR MONTH OF NOVEMBER													INITIAL WIND SPEED 20 TO 30 (M/SEC)													INITIAL WIND SPEED 10 TO 20 (M/SEC)																																																																																																										
ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)					ELAPSED TIME IN HOURS				ALTITUDE 21 TO 25 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				WIND SPEED CHANGE VALUES (M/SEC)					ELAPSED TIME IN HOURS																																																																																																						
PERCENT LEVELS				PERCENT LEVELS				PERCENT LEVELS					PERCENT LEVELS				PERCENT LEVELS				PERCENT LEVELS				PERCENT LEVELS					PERCENT LEVELS																																																																																																						
1.0	-9.840	-19.200	-14.600	-19.200	-19.200	-14.733	1.0	-14.500	-9.875	-14.833	-14.750	-14.833	-14.833	1.0	-14.500	-9.875	-14.833	-14.750	-14.833	-14.833	5.0	-9.200	-16.000	-13.000	-16.000	-16.000	-13.667	5.0	-12.500	-9.375	-14.167	-13.750	-14.167	-14.167	10.0	-8.400	-13.500	-11.000	-14.000	-12.000	-12.333	10.0	-5.000	-8.750	-13.333	-12.500	-13.750	-13.333	25.0	-6.000	-9.167	-8.571	-10.000	-8.333	-7.500	25.0	-4.062	-6.875	-10.833	-9.167	-11.875	-10.833	50.0	-3.125	-5.833	-5.714	-4.167	-5.000	-3.125	50.0	-2.500	-4.167	-7.500	-5.000	-5.000	-8.000	75.0	-0.625	-2.000	0.	-3.833	-1.667	-0.625	75.0	-0.937	-2.083	-4.167	-3.833	2.500	-5.500	90.0	3.500	2.000	4.000	7.000	2.000	6.000	90.0	0.000	-0.833	-1.667	9.000	7.500	0.000	95.0	11.000	16.000	6.000	11.000	6.000	8.000	95.0	-0.417	-0.833	7.500	8.750	2.500	2.500	99.0	14.200	19.200	9.200	14.200	9.200	9.600	99.0	-0.083	-0.167	9.500	9.750	4.500	4.500
NO. OF OBS.				NO. OF OBS.				NO. OF OBS.					NO. OF OBS.				NO. OF OBS.				NO. OF OBS.					NO. OF OBS.																																																																																																										
16.				16.				16.					16.				16.				16.					16.																																																																																																										

TABLE XII a

December, 1 to 5 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF DECEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	60	72
1.0	-0.650	-0.987	-0.987	-9.190	-7.975	-0.650	-9.406	-9.236
5.0	-4.078	-4.994	-4.992	-5.950	-4.650	-4.691	-7.028	-5.542
10.0	-4.407	-4.487	-4.339	-4.354	-3.870	-3.500	-4.757	-4.242
25.0	-2.994	-2.969	-2.379	-1.823	-1.820	0.045	-2.348	-1.914
50.0	-0.640	-0.437	1.146	2.500	3.362	3.661	0.962	1.813
75.0	2.731	3.988	5.547	8.646	9.609	8.984	4.391	5.368
90.0	4.981	7.833	9.344	16.611	16.036	14.944	8.531	10.214
95.0	7.621	8.983	12.438	18.061	18.308	18.950	10.650	13.313
99.0	10.950	10.950	17.975	25.950	25.950	23.650	14.930	19.683
NO. OF OBS.	61.	61.	61.	61.	61.	61.	107.	107.

FOR MONTH OF DECEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 45 TO 90 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	60	72
1.0	-9.812	-14.500	-19.250	-18.500	-14.700	-14.250	-13.900	-13.900
5.0	-9.062	-12.500	-16.250	-12.500	-13.500	-11.250	-9.929	-9.900
10.0	-8.125	-10.000	-10.000	-9.615	-12.000	-9.667	-9.143	-8.600
25.0	-5.312	-7.750	-8.269	-7.885	-8.864	-8.167	-6.786	-5.500
50.0	-3.056	-4.333	-5.385	-5.000	-5.455	-5.667	-3.333	-2.857
75.0	-0.972	-1.833	-2.679	-1.875	-1.389	0.833	-3.278	3.929
90.0	1.250	-0.333	-1.071	1.000	6.667	8.333	3.500	4.000
95.0	3.125	1.250	-0.536	3.750	9.167	11.250	4.875	3.900
99.0	4.625	4.250	-0.107	8.500	13.500	14.250	8.900	14.450
NO. OF OBS.	30.	30.	30.	30.	30.	30.	22.	22.

TABLE XII a (Cont'd)

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO		10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO		20 (M/SEC)	
ALTITUDE		1 TO		5 (KM)		INITIAL DIRECTION		90 TO		135 TO		180 (DEG)		INITIAL DIRECTION		135 TO		180 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS																	
LEVELS		12	24	36	48	60	72			12	24	36	48	60	72				
1.0		-4.902	-5.100	-5.100	-8.775	-8.367	-8.775			1.0	-9.675	-9.675	-9.675	-9.637	-9.637			-14.350	-14.350
5.0		-4.310	-4.391	-4.524	-4.833	-4.672	-4.839			5.0	-8.375	-9.350	-8.375	-9.187	-9.187			-11.750	-11.750
10.0		-4.020	-3.625	-3.927	-3.926	-3.828	-3.964			10.0	-6.750	-8.700	-6.750	-8.375	-8.375			-9.500	-9.500
25.0		-2.550	-1.328	-2.134	-1.204	-1.293	-1.339			25.0	-2.917	-6.750	-4.107	-5.937	-5.937			-6.250	-6.250
50.0		-0.100	2.162	1.129	2.368	2.361	2.500			50.0	1.500	-3.500	-1.786	-1.875	-2.917			-2.917	-2.917
75.0		2.938	5.729	5.147	6.023	6.375	6.630			75.0	4.750	-0.250	1.875	1.750	-0.208			-0.208	-0.208
90.0		4.775	8.792	9.471	9.364	10.125	9.826			90.0	9.250	6.750	8.500	3.700	4.250			4.250	4.250
95.0		6.938	9.613	13.100	11.750	13.188	15.125			95.0	16.750	6.375	11.750	4.350	11.750			16.750	16.750
99.0		9.388	13.775	18.367	15.100	17.550	25.100			99.0	19.350	9.675	14.350	4.870	14.350			19.350	19.350
NO. OF																			
OBS.		98.	98.	98.	98.	98.	98.					13.	13.	13.	13.			13.	13.

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO		10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO		10 (M/SEC)	
ALTITUDE		1 TO		5 (KM)		INITIAL DIRECTION		135 TO		180 (DEG)		INITIAL DIRECTION		180 TO		225 (DEG)			
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS																	
LEVELS		12	24	36	48	60	72			12	24	36	48	60	72				
1.0		-7.325	-7.325	-8.930	-8.930	-8.930	-8.930			1.0	-4.851	-7.267	-7.267	-8.829	-8.633			-7.950	-7.950
5.0		-4.581	-4.371	-4.951	-4.947	-4.945	-4.959			5.0	-4.255	-4.366	-4.395	-4.850	-4.756			-4.553	-4.553
10.0		-3.912	-3.885	-4.208	-4.136	-4.109	-4.186			10.0	-3.509	-3.366	-3.442	-3.825	-3.844			-3.881	-3.881
25.0		-1.906	-1.827	-1.979	-1.705	-1.602	-1.693			25.0	-1.273	-0.366	-0.581	-0.750	-1.111			-1.064	-1.064
50.0		1.307	1.689	1.953	2.870	2.426	2.250			50.0	2.250	3.654	3.830	3.804	4.697			3.690	3.690
75.0		4.347	5.511	6.450	7.723	7.434	6.830			75.0	6.026	8.971	8.750	9.846	8.980			8.846	8.846
90.0		7.452	9.159	9.660	11.833	12.423	9.696			90.0	9.179	13.667	14.867	14.333	14.867			13.900	13.900
95.0		8.726	11.375	12.607	14.806	14.481	13.042			95.0	11.000	16.286	18.000	17.900	19.875			18.800	18.800
99.0		9.745	14.942	17.325	18.930	22.325	19.825			99.0	14.644	22.267	22.267	22.950	28.400			30.900	30.900
NO. OF																			
OBS.		107.	107.	107.	107.	107.	107.					164.	164.	164.	164.			164.	164.

TABLE XII a (Cont'd)

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 180 TO 225 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-11.000	-14.200	-13.667	-13.667	-16.000	-14.556		1.0	-10.362	-12.681	-14.593	-14.869	-14.512	-14.781	
5.0	-8.750	-11.000	-9.750	-9.800	-12.500	-12.778		5.0	-8.181	-9.213	-11.060	-12.120	-12.559	-12.878	
10.0	-7.083	-8.750	-8.750	-9.000	-9.750	-10.556		10.0	-5.862	-7.828	-9.034	-9.486	-10.118	-10.500	
25.0	-3.654	-4.348	-5.750	-6.600	-6.750	-7.250		25.0	-3.167	-4.163	-5.223	-5.453	-6.535	-6.806	
50.0	0.227	0.	-0.750	-2.000	-2.400	-2.963		50.0	0.397	0.285	-0.738	-1.303	-2.047	-2.165	
75.0	4.773	6.250	7.000	5.000	3.333	1.818		75.0	4.731	6.690	6.005	5.425	4.918	4.097	
90.0	8.438	10.000	13.333	12.727	13.750	8.571		90.0	8.960	13.109	13.938	12.475	10.967	9.883	
95.0	9.688	14.000	16.250	14.545	17.500	13.333		95.0	11.434	17.016	18.736	18.521	16.792	14.363	
99.0	21.000	21.000	21.000	26.000	21.000	21.000		99.0	16.613	25.363	28.225	26.613	25.725	24.408	
NO. OF								NO. OF							
Obs.	80.	80.	80.	80.	80.	80.	80.	Obs.	371.	371.	371.	371.	371.	371.	371.

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 20 TO 30 (M/SEC)						
ALTITUDE 1 TO 5 (KM)			1 TO 5 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-8.556	-9.556	-9.175	-9.278	-9.278	-8.845		1.0	-14.806	-19.408	-20.725	-23.575	-27.150	-22.150	
5.0	-4.766	-4.735	-5.875	-6.391	-6.391	-4.886		5.0	-10.806	-14.592	-17.481	-19.329	-19.490	-19.009	
10.0	-4.007	-3.873	-4.254	-4.445	-4.418	-4.037		10.0	-8.776	-12.342	-14.562	-17.079	-17.780	-17.482	
25.0	-1.727	-1.287	-1.414	-1.738	-1.578	-1.489		25.0	-4.653	-7.906	-9.543	-12.042	-13.220	-13.164	
50.0	1.875	2.893	3.616	3.413	3.702	3.289		50.0	-0.694	-2.784	-4.375	-6.755	-6.838	-7.656	
75.0	5.505	8.531	9.311	5.683	6.688	6.678		75.0	4.299	2.852	1.012	-1.719	-2.146	-2.305	
90.0	8.837	13.817	14.810	15.679	14.295	14.354		90.0	9.523	10.864	8.708	3.967	1.208	3.028	
95.0	9.947	16.712	19.354	19.804	18.521	18.521		95.0	13.225	14.750	15.375	8.893	4.771	6.208	
99.0	14.828	21.725	28.075	24.828	24.064	28.450		99.0	19.113	25.725	22.150	15.725	11.450	13.817	
NO. OF								NO. OF							
Obs.	231.	231.	231.	231.	231.	231.	231.	Obs.	171.	171.	171.	171.	171.	171.	171.



TABLE XI a (Cont'd)

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FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		30 TO 40 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		225 TO 270 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		270 TO 315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-19.462	-32.650	-32.650	-29.835	-33.925	-37.650	1.0		-12.969	-14.750	-14.784	-14.848	-14.965	-14.967
5.0		-17.312	-24.850	-29.042	-29.173	-29.906	-33.562	5.0		-9.411	-12.150	-12.543	-13.262	-13.160	-13.237
10.0		-14.812	-22.700	-27.250	-26.346	-26.562	-30.675	10.0		-8.250	-9.680	-9.931	-11.280	-10.903	-11.118
25.0		-10.781	-17.917	-23.295	-25.065	-24.659	-25.893	25.0		-4.888	-6.846	-7.695	-7.639	-7.679	-7.687
50.0		-5.682	-12.500	-18.056	-20.750	-19.750	-17.679	50.0		-2.086	-2.829	-3.611	-2.908	-3.018	-2.760
75.0		0.893	-7.614	-12.614	-13.194	-12.917	-11.750	75.0		1.421	1.523	2.917	3.384	3.969	4.122
90.0		6.167	-3.833	-8.833	-8.833	-3.250	-0.750	90.0		4.760	6.641	9.167	10.595	9.939	10.761
95.0		9.750	-0.250	-5.250	-5.250	7.125	12.125	95.0		7.772	9.180	12.868	14.464	15.795	14.293
99.0		13.925	8.925	2.650	-1.075	12.850	22.650	99.0		13.438	14.844	19.107	21.750	23.125	22.188
NO. OF								NO. OF							
OBS.		43.	43.	43.	43.	43.	43.	OBS.		325.	325.	325.	325.	325.	325.

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		20 TO 30 (M/SEC)	
ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		270 TO 315 (DEG)		ALTITUDE		1 TO 5 (KM)		INITIAL DIRECTION		270 TO 315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS		12	24	36	48	60	72	LEVELS		12	24	36	48	60	72
1.0		-9.294	-9.365	-9.471	-9.206	-9.332	-9.206	1.0		-19.975	-19.995	-24.158	-24.990	-24.975	-23.737
5.0		-6.472	-6.825	-7.354	-6.031	-6.658	-6.031	5.0		-14.431	-17.975	-20.792	-20.950	-19.146	-19.523
10.0		-4.664	-4.703	-4.922	-4.420	-4.568	-4.362	10.0		-13.028	-15.450	-18.794	-19.024	-17.145	-17.227
25.0		-2.932	-2.610	-2.806	-2.068	-1.993	-1.875	25.0		-9.469	-12.904	-14.489	-15.417	-12.950	-12.950
50.0		-0.045	0.976	1.354	2.727	3.148	3.241	50.0		-6.312	-9.083	-9.113	-9.079	-7.900	-7.237
75.0		3.255	4.848	8.098	9.775	9.628	9.198	75.0		-1.927	-4.750	-5.040	-1.518	-1.417	-0.347
90.0		5.920	9.684	13.679	14.000	16.000	16.900	90.0		3.688	0.750	2.417	7.786	9.278	7.071
95.0		8.460	13.219	17.409	18.500	19.528	20.214	95.0		7.107	4.958	7.438	13.250	14.875	11.583
99.0		12.460	22.300	23.717	31.150	29.100	29.325	99.0		9.993	14.975	13.317	19.983	19.988	18.317
NO. OF								NO. OF							
OBS.		254.	254.	254.	254.	254.	254.	OBS.		101.	101.	101.	101.	101.	101.

TABLE XII a (Cont'd)

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)				
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)				
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)				
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-24.475	-29.650	-29.737	-29.650	-33.950	-34.650	1.0	-12.300	-14.662	-17.300	-17.300	-17.300	-14.700
5.0	-22.375	-26.250	-26.667	-26.250	-29.750	-33.250	5.0	-9.630	-13.312	-13.786	-13.300	-12.167	-13.500
10.0	-19.900	-26.500	-27.375	-26.500	-24.675	-31.500	10.0	-9.043	-11.625	-11.657	-10.600	-9.611	-12.000
25.0	-16.750	-21.250	-23.437	-22.750	-20.937	-19.750	25.0	-7.263	-8.625	-8.261	-7.656	-7.361	-8.125
50.0	-11.500	-17.167	-18.437	-17.917	-15.500	-14.667	50.0	-4.423	-5.250	-4.266	-3.437	-2.727	-1.250
75.0	-6.675	-12.083	-15.156	-12.812	-12.361	-11.406	75.0	-1.827	-1.526	-1.071	2.083	5.500	8.750
90.0	-3.500	-6.933	-8.500	-2.750	-10.611	-5.500	90.0	-0.269	2.600	5.600	11.500	17.600	14.714
95.0	-1.750	-5.083	-6.750	-0.125	-10.026	-0.250	95.0	1.625	5.500	6.300	21.500	21.500	16.633
99.0	-0.350	-1.050	-5.350	6.950	-1.050	6.950	99.0	4.325	9.100	12.300	26.650	32.300	27.300
NO. OF							NO. OF						
OBS.	21.	21.	21.	21.	21.	21.	OBS.	54.	54.	54.	54.	54.	54.

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)		
ALTITUDE 1 TO 5 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	60	72	12	24
1.0	-7.900	-6.650	-6.650	-6.740	-6.950	-6.950	1.0	-7.900
5.0	-4.771	-4.609	-4.511	-4.637	-4.952	-4.946	5.0	-4.771
10.0	-4.333	-4.036	-3.795	-4.050	-3.935	-3.621	10.0	-4.333
25.0	-3.021	-2.318	-1.648	-1.667	-0.667	-0.446	25.0	-3.021
50.0	-0.833	0.667	2.179	3.913	3.611	3.718	50.0	-0.833
75.0	2.321	4.167	6.759	9.766	6.961	6.563	75.0	2.321
90.0	4.571	7.591	10.636	13.714	13.722	14.333	90.0	4.571
95.0	6.500	9.023	13.500	16.929	16.063	16.357	95.0	6.500
99.0	9.300	13.700	21.650	21.650	19.212	24.567	99.0	9.300
NO. OF							NO. OF	
OBS.	126.	126.	126.	126.	126.	126.	OBS.	126.

TABLE XII b

December, 6 to 10 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		20 TO 30 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		180 TO 225 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72			LEVELS	12	24	36	48	60	72	
1.0	-9.550	-4.775	-4.700	-4.700	-4.820	-4.775		1.0	-18.950	-18.950	-18.950	-19.475	-18.950	-14.650	
5.0	-7.750	-3.875	-3.500	-3.500	-4.100	-3.875		5.0	-14.750	-14.875	-14.964	-17.375	-14.875	-13.250	
10.0	-5.500	-2.750	-2.000	-2.000	-3.200	-2.750		10.0	-9.750	-12.250	-14.214	-14.833	-12.250	-11.500	
25.0	-1.875	0.357	1.500	1.875	-0.500	0.625		25.0	-4.107	-7.187	-11.964	-9.687	-4.844	-4.750	
50.0	1.364	3.571	6.667	10.000	8.750	7.500		50.0	-0.357	0.833	-3.125	-3.750	-1.562	0.833	
75.0	3.409	9.167	14.167	19.125	20.625	19.167		75.0	7.188	13.750	12.917	9.750	4.583	8.438	
90.0	4.636	16.000	25.500	26.000	24.000	23.667		90.0	14.500	24.833	34.500	17.250	8.625	14.750	
95.0	10.500	20.500	27.750	30.500	35.500	35.500		95.0	19.750	29.750	37.375	19.875	9.938	19.750	
99.0	14.100	24.100	29.550	34.100	39.100	39.100		99.0	23.950	38.950	39.475	23.950	13.950	28.950	
NO. OF								NO. OF							
OBS.	18.	18.	18.	18.	18.	18.		OBS.	21.	21.	21.	21.	21.	21.	

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		40 TO 50 (M/SEC)	
ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		180 TO 225 (DEG)		ALTITUDE		6 TO 10 (KM)		INITIAL DIRECTION		180 TO 225 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72			LEVELS	12	24	36	48	60	72	
1.0	-12.850	-9.570	-9.693	-12.850	-9.731	-13.925		1.0	-19.500	-34.750	-39.750	-39.500	-34.750	-24.900	
5.0	-8.083	-7.850	-8.464	-9.179	-8.656	-9.850		5.0	-17.500	-33.750	-38.750	-37.500	-33.750	-24.500	
10.0	-4.833	-5.700	-6.929	-7.643	-7.312	-7.700		10.0	-15.000	-32.500	-37.500	-35.000	-32.500	-24.000	
25.0	-1.250	-2.946	-3.437	-4.083	-3.942	-3.295		25.0	-11.250	-17.500	-29.167	-32.500	-28.750	-22.500	
50.0	2.361	0.982	1.250	-0.500	0.227	1.944		50.0	10.000	-10.000	-25.000	-18.750	-10.000	-20.000	
75.0	5.321	5.139	6.625	6.607	5.179	8.281		75.0	14.167	-6.875	-12.500	-15.625	-6.875	-6.250	
90.0	8.208	9.722	9.850	11.700	9.786	13.083		90.0	22.500	-5.000	-7.500	0.000	0.000	2.500	
95.0	9.104	9.917	13.083	13.850	14.625	14.875		95.0	23.750	-2.500	-6.250	2.500	2.500	3.750	
99.0	9.821	17.850	27.850	22.850	32.850	27.850		99.0	24.750	-0.500	-5.250	4.500	4.500	4.750	
NO. OF								NO. OF							
OBS.	43.	43.	43.	43.	43.	43.		OBS.	10.	10.	10.	10.	10.	10.	

TABLE XII b (Cont'd)

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			0 TO 10 (M/SEC)			FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			20 TO 30 (M/SEC)		
ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			225 TO 270 (DEG)			ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			225 TO 270 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)												WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS									PERCENT			ELAPSED TIME IN HOURS								
LEVELS			24 36 48 72									LEVELS			24 36 48 72								
1.0			-8.675	-7.350	-4.621	-7.350	-4.470	-4.470	-4.470	-4.470	-4.470	1.0			-12.915	-16.030	-16.415	-16.915	-16.915	-16.915	-19.960	-19.960	-19.960
5.0			-4.729	-4.312	-3.625	-3.107	-3.625	-2.350	-2.350	-2.350	-2.350	5.0			-9.846	-11.464	-13.176	-13.573	-14.555	-14.555	-15.960	-15.960	-15.960
10.0			-3.625	-3.208	-1.417	-1.214	-1.417	0.115	0.115	0.115	0.115	10.0			-6.628	-6.469	-9.589	-10.210	-11.297	-11.297	-12.391	-12.391	-12.391
25.0			-0.312	0.096	1.953	2.604	2.232	3.173	3.173	3.173	3.173	25.0			-3.079	-3.393	-3.845	-5.139	-4.985	-5.855	-5.855	-5.855	-5.855
50.0			2.841	5.179	6.750	7.679	7.115	8.036	8.036	8.036	8.036	50.0			1.319	2.833	2.120	1.321	1.106	1.106	1.157	1.157	1.157
75.0			6.705	9.911	13.375	13.750	14.792	15.938	15.938	15.938	15.938	75.0			6.491	8.986	8.865	9.937	8.024	8.715	8.715	8.715	8.715
90.0			10.875	16.700	22.700	23.700	35.583	32.833	32.833	32.833	32.833	90.0			10.597	17.457	16.978	16.396	16.029	19.036	19.036	19.036	19.036
95.0			14.188	25.875	31.750	35.583	37.792	36.687	36.687	36.687	36.687	95.0			13.493	24.159	28.075	26.212	24.162	23.946	23.946	23.946	23.946
99.0			22.350	37.350	38.675	39.117	39.558	39.337	39.337	39.337	39.337	99.0			19.164	34.575	37.394	34.879	34.717	33.644	33.644	33.644	33.644
NO. OF												NO. OF											
OBS.			53.	53.	53.	53.	53.	53.	53.	53.	53.	OBS.			417.	417.	417.	417.	417.	417.	417.	417.	417.

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			10 TO 20 (M/SEC)			FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			30 TO 40 (M/SEC)		
ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			225 TO 270 (DEG)			ALTITUDE			6 TO 10 (KM)			INITIAL DIRECTION			225 TO 270 (DEG)		
						WIND SPEED CHANGE VALUES (M/SEC)												WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS									PERCENT			ELAPSED TIME IN HOURS								
LEVELS			24 36 48 72									LEVELS			24 36 48 72								
1.0			-9.939	-12.087	-9.723	-12.087	-9.928	-9.925	-9.925	-9.925	-9.925	1.0			-19.257	-24.960	-24.257	-27.829	-29.971	-29.971	-31.200	-31.200	-31.200
5.0			-8.213	-9.087	-7.781	-7.268	-7.902	-7.807	-7.807	-7.807	-7.807	5.0			-13.708	-17.429	-18.591	-22.071	-22.636	-22.636	-23.176	-23.176	-23.176
10.0			-6.056	-5.175	-5.354	-4.518	-5.370	-5.159	-5.159	-5.159	-5.159	10.0			-10.542	-13.444	-15.136	-18.120	-18.576	-18.576	-19.241	-19.241	-19.241
25.0			-1.750	-1.017	-1.921	-1.341	-0.625	-0.372	-0.372	-0.372	-0.372	25.0			-5.000	-7.065	-9.024	-10.946	-11.857	-11.857	-12.439	-12.439	-12.439
50.0			2.833	5.037	5.896	6.159	6.944	6.938	6.938	6.938	6.938	50.0			-0.190	-0.169	-1.641	-3.305	-4.423	-4.423	-4.986	-4.986	-4.986
75.0			6.839	9.320	12.049	13.934	14.393	13.924	13.924	13.924	13.924	75.0			6.429	8.750	7.259	4.302	4.286	4.286	4.714	4.714	4.714
90.0			9.336	13.671	18.806	24.458	24.613	23.464	23.464	23.464	23.464	90.0			12.038	16.474	16.278	15.250	13.222	13.222	12.063	12.063	12.063
95.0			10.904	15.979	24.594	30.292	32.094	29.083	29.083	29.083	29.083	95.0			14.962	20.750	21.286	22.111	20.667	20.667	19.143	19.143	19.143
99.0			14.488	19.883	33.338	38.058	38.338	37.870	37.870	37.870	37.870	99.0			23.267	28.267	29.971	36.200	31.200	31.200	26.600	26.600	26.600
NO. OF												NO. OF											
OBS.			233.	233.	233.	233.	233.	233.	233.	233.	233.	OBS.			304.	304.	304.	304.	304.	304.	304.	304.	304.



TABLE XII b (Cont'd)

FOR MONTH OF DECEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)			FOR MONTH OF DECEMBER			INITIAL WIND SPEED 30 TO 40 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-10.983	-11.987	-13.993	-11.987	-13.279	1.0	-19.727	-19.571	-24.000	-28.500	-29.000
5.0	-8.115	-8.509	-9.190	-8.509	-8.798	5.0	-16.818	-15.000	-17.500	-19.167	-23.182
10.0	-5.604	-6.278	-6.780	-6.278	-5.929	10.0	-13.667	-13.571	-14.231	-15.833	-19.643
25.0	-2.973	-2.434	-2.161	-1.953	-0.757	25.0	-9.333	-9.444	-9.714	-11.071	-12.105
50.0	0.821	2.500	4.115	5.833	7.150	50.0	-3.478	-3.710	-3.654	-2.500	-3.600
75.0	5.188	7.478	10.114	12.219	13.608	75.0	2.105	3.696	6.875	9.036	5.263
90.0	8.644	13.038	16.026	17.673	22.227	90.0	8.824	9.737	16.111	15.625	12.308
95.0	9.803	17.482	19.197	19.990	32.750	95.0	12.857	18.333	20.833	21.000	16.000
99.0	14.744	22.590	24.707	35.983	38.494	99.0	18.400	27.000	31.000	36.000	26.000
NO. OF OBS.	241.	241.	241.	241.	241.	NO. OF OBS.	160.	160.	160.	160.	160.

FOR MONTH OF DECEMBER			INITIAL WIND SPEED 20 TO 30 (M/SEC)			FOR MONTH OF DECEMBER			INITIAL WIND SPEED 40 TO 50 (M/SEC)		
ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 6 TO 10 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			PERCENT			ELAPSED TIME IN HOURS		
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-17.758	-17.887	-20.517	-18.506	-19.686	1.0	-27.650	-33.825	-35.300	-36.433	-38.433
5.0	-12.135	-13.310	-13.566	-13.764	-14.893	5.0	-22.300	-26.250	-31.300	-30.750	-30.750
10.0	-9.037	-10.620	-10.026	-10.028	-11.690	10.0	-16.000	-22.875	-24.500	-23.250	-24.000
25.0	-4.497	-4.301	-4.353	-3.924	-3.799	25.0	-9.861	-13.958	-13.958	-14.318	-16.458
50.0	0.179	1.289	1.968	3.988	3.563	50.0	-4.318	-6.318	-4.737	-5.000	-7.273
75.0	4.982	7.992	10.898	11.215	13.051	75.0	1.875	0.833	3.056	2.500	0.179
90.0	9.537	14.839	19.147	20.063	19.839	90.0	8.667	9.125	13.000	11.143	8.500
95.0	13.873	19.827	24.396	28.964	28.469	95.0	12.300	15.750	22.167	14.500	15.500
99.0	19.569	25.517	37.310	38.079	35.517	99.0	25.300	30.300	30.300	25.300	35.300
NO. OF OBS.	269.	269.	269.	269.	269.	NO. OF OBS.	94.	94.	94.	94.	94.

TABLE XII b (Cont'd)

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED 50 TO 60 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED 10 TO 20 (M/SEC)	
ALTITUDE 6 TO 10 (KM)		6 TO 10 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		ALTITUDE 6 TO 10 (KM)		6 TO 10 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS					PERCENT	ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-19.814	-29.567	-34.350	-29.350	-38.700	1.0	-16.200	-13.100	-14.240	-16.200	-16.200
5.0	-19.071	-27.833	-31.750	-26.750	-34.250	5.0	-9.000	-9.550	-11.200	-12.200	-10.333
10.0	-18.143	-25.667	-27.000	-24.000	-32.333	10.0	-6.889	-8.600	-9.133	-9.200	-8.364
25.0	-15.357	-18.500	-13.929	-17.500	-19.167	25.0	-3.974	-5.750	-5.333	-4.444	-4.259
50.0	-6.250	-8.750	-9.500	-7.143	-8.333	50.0	-1.538	-1.364	-1.667	-0.926	-0.741
75.0	0.833	1.250	-6.250	-2.812	-1.875	75.0	2.333	3.421	3.571	5.625	8.125
90.0	8.500	12.000	2.000	-0.375	8.500	90.0	7.125	10.333	12.333	17.333	23.000
95.0	11.750	18.500	8.500	8.500	11.750	95.0	9.500	13.500	18.667	30.500	32.000
99.0	14.350	33.700	33.700	13.700	14.350	99.0	21.200	18.100	28.100	38.100	38.733
NO. OF						NO. OF					
OBS.	26.	26.	26.	26.	26.	OBS.	76.	76.	76.	76.	76.

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED 0 TO 10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED 20 TO 30 (M/SEC)	
ALTITUDE 6 TO 10 (KM)		6 TO 10 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)		ALTITUDE 6 TO 10 (KM)		6 TO 10 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)	
		WIND SPEED CHANGE VALUES (M/SEC)						WIND SPEED CHANGE VALUES (M/SEC)			
PERCENT	ELAPSED TIME IN HOURS					PERCENT	ELAPSED TIME IN HOURS				
LEVELS	12	24	36	48	72	LEVELS	12	24	36	48	72
1.0	-8.100	-8.100	-4.810	-4.827	-4.789	1.0	-18.150	-19.537	-19.630	-18.150	-18.150
5.0	-4.735	-4.679	-4.050	-4.136	-3.944	5.0	-14.292	-17.687	-18.150	-14.614	-14.469
10.0	-4.176	-4.000	-3.100	-3.273	-2.889	10.0	-12.750	-15.375	-16.300	-13.773	-13.312
25.0	-2.500	-1.964	-0.250	-0.682	0.278	25.0	-9.062	-12.812	-12.875	-11.250	-9.875
50.0	0.357	2.500	4.500	5.833	6.000	50.0	-5.208	-8.214	-8.542	-7.679	-5.250
75.0	3.750	8.929	11.250	14.500	16.500	75.0	-0.139	-2.031	-3.750	-2.083	0.938
90.0	7.200	15.333	18.000	21.500	22.750	90.0	4.417	2.875	4.125	13.833	13.833
95.0	9.100	18.500	22.750	23.875	30.500	95.0	7.875	5.750	7.875	20.750	25.750
99.0	13.100	23.100	26.100	36.100	36.100	99.0	13.150	13.150	28.150	38.150	38.150
NO. OF						NO. OF					
OBS.	38.	38.	38.	38.	38.	OBS.	37.	37.	37.	37.	37.

TABLE XII b (Cont'd)

FOR MONTH OF	DECEMBER	INITIAL WIND SPEED 30 TO 40 (M/SEC)					
ALTITUDE	6 TO 10 (KM)	INITIAL DIRECTION 315 TO 360 (DEG)					
		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT	ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	
1.0	-24.150	-24.787	-24.787	-19.717	-24.150	-19.150	
5.0	-20.750	-23.937	-23.937	-18.583	-20.750	-15.750	
10.0	-19.300	-22.875	-22.875	-17.167	-18.250	-14.125	
25.0	-16.750	-19.583	-14.687	-13.750	-12.917	-10.937	
50.0	-12.500	-13.750	-9.375	-9.167	-5.833	-2.500	
75.0	-7.083	-10.208	-3.750	6.875	13.750	13.750	
90.0	1.500	-3.500	1.500	15.750	23.250	23.250	
95.0	10.750	0.750	10.750	17.875	25.750	35.750	
99.0	14.150	4.150	14.150	19.375	29.150	39.150	
NO. OF							
OBS.	17.	17.	17.	17.	17.	17.	



TABLE XII c

December, 11 to 15 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		20 TO 30 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 180 TO 225 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS	
PERCENT		24	36	48	60	72		PERCENT		24	36	48	60	72	
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-9.767	-14.767	-14.650	-14.650	-19.300	-14.300		1.0	-9.212	-4.650	-4.758	-6.850	-8.425	-8.950	
5.0	-8.833	-13.833	-13.250	-13.250	-16.500	-11.500		5.0	-6.062	-3.250	-3.788	-3.208	-3.562	-4.750	
10.0	-7.667	-12.667	-11.500	-11.500	-9.333	-9.000		10.0	-4.115	-1.500	-2.577	-0.583	0.115	0.150	
25.0	-4.643	-8.750	-8.125	-7.500	-5.833	-4.583		25.0	-0.481	2.596	1.528	3.365	3.750	4.875	
50.0	-2.143	-3.000	-2.500	-3.000	-2.500	-1.667		50.0	2.900	6.900	7.262	8.026	8.125	8.523	
75.0	0.833	0.833	2.500	0.833	0.833	3.750		75.0	6.641	10.208	12.361	14.125	14.583	14.625	
90.0	4.333	4.333	4.600	4.333	4.333	9.000		90.0	9.594	18.700	21.750	19.278	23.083	27.250	
95.0	11.500	6.500	16.500	16.500	16.500	21.500		95.0	13.083	22.313	27.313	32.125	26.417	29.875	
99.0	14.300	9.300	19.300	19.300	19.300	24.300		99.0	21.850	36.850	36.850	38.425	36.850	36.850	
NO. OF								NO. OF							
OBS.	14.	14.	14.	14.	14.	14.		OBS.	63.	63.	63.	63.	63.	63.	

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		40 TO 50 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		20 TO 30 (M/SEC)	
ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 180 TO 225 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS		ALTITUDE 11 TO 15 (KM)		INITIAL DIRECTION 225 TO 270 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		ELAPSED TIME IN HOURS	
PERCENT		24	36	48	60	72		PERCENT		24	36	48	60	72	
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72	
1.0	-19.450	-29.450	-29.450	-14.890	-14.725	-19.450		1.0	-11.050	-12.630	-11.575	-11.050	-13.858	-13.858	
5.0	-17.250	-27.250	-27.250	-14.450	-13.625	-17.250		5.0	-7.234	-8.369	-8.298	-7.542	-8.383	-7.795	
10.0	-14.500	-24.500	-24.750	-13.900	-12.250	-14.750		10.0	-4.659	-5.548	-6.019	-4.719	-4.793	-4.269	
25.0	-8.750	-16.250	-20.625	-12.250	-8.750	-10.625		25.0	-2.083	-1.977	-1.712	-1.016	-0.457	0.363	
50.0	-2.500	-9.167	-13.750	-9.375	-4.167	-5.833		50.0	1.930	4.688	6.442	7.039	7.500	9.357	
75.0	8.125	-3.750	-7.917	-5.937	0.625	8.125		75.0	6.097	12.371	16.339	17.898	16.298	18.705	
90.0	14.500	4.500	-5.167	4.500	4.750	12.250		90.0	9.724	19.833	24.685	24.383	24.289	26.100	
95.0	27.250	22.250	-2.750	7.250	7.250	13.625		95.0	14.159	25.977	30.719	28.396	29.575	30.075	
99.0	29.450	24.450	-0.550	9.450	9.450	14.725		99.0	19.239	33.150	37.630	37.038	37.038	34.815	
NO. OF								NO. OF							
OBS.	11.	11.	11.	11.	11.	11.		OBS.	237.	237.	237.	237.	237.	237.	

TABLE XII c (Cont'd)

FOR MONTH OF DECEMBER							INITIAL WIND SPEED 30 TO 40 (M/SEC)							INITIAL WIND SPEED 50 TO 60 (M/SEC)						
ALTITUDE 11 TO 15 (KM)							INITIAL DIRECTION 225 TO 270 (DEG)							INITIAL DIRECTION 225 TO 270 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)							WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT							PERCENT							PERCENT						
ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS							ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-18.062	-19.607	-19.019	-19.483	-20.750	-20.562	1.0	-27.725	-36.817	-36.817	-36.836	-38.939	-39.265	1.0	-27.725	-36.817	-36.817	-36.836	-38.939	-39.265
5.0	-10.104	-12.578	-14.148	-14.856	-14.856	-16.562	5.0	-18.725	-27.042	-30.321	-32.450	-34.607	-36.327	5.0	-18.725	-27.042	-30.321	-32.450	-34.607	-36.327
10.0	-7.756	-8.750	-10.114	-11.442	-11.442	-11.406	10.0	-14.562	-22.042	-24.967	-26.056	-28.278	-31.950	10.0	-14.562	-22.042	-24.967	-26.056	-28.278	-31.950
25.0	-3.064	-2.937	-3.325	-4.425	-3.125	-2.872	25.0	-9.282	-13.802	-16.562	-17.202	-18.312	-18.750	25.0	-9.282	-13.802	-16.562	-17.202	-18.312	-18.750
50.0	2.005	3.567	4.868	4.944	5.848	5.819	50.0	-3.958	-5.786	-6.912	-8.056	-7.500	-9.643	50.0	-3.958	-5.786	-6.912	-8.056	-7.500	-9.643
75.0	7.441	10.610	11.392	12.025	13.986	14.193	75.0	3.438	4.786	6.250	5.074	5.536	2.604	75.0	3.438	4.786	6.250	5.074	5.536	2.604
90.0	12.563	17.981	19.135	18.917	21.643	22.841	90.0	11.633	12.786	16.318	14.577	14.125	16.813	90.0	11.633	12.786	16.318	14.577	14.125	16.813
95.0	14.781	22.266	23.897	22.961	24.179	26.750	95.0	14.617	16.225	20.806	19.694	19.725	22.472	95.0	14.617	16.225	20.806	19.694	19.725	22.472
99.0	21.125	31.813	34.083	31.813	34.542	35.563	99.0	22.725	25.450	25.225	27.613	27.613	28.090	99.0	22.725	25.450	25.225	27.613	27.613	28.090
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TABLE XII c (Cont'd)

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		70 TO		80 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		20 TO		30 (M/SEC)	
ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		225 TO		270 (DEG)		ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)										WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS								PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72			LEVELS		12	24	36	48	60	72		
1.0		-33.900	-39.560	-39.071	-39.890	-39.878	-39.884			1.0		-12.725	-14.696	-16.587	-18.558	-19.675	-17.837		
5.0		-29.667	-37.800	-39.353	-39.450	-39.389	-39.421			5.0		-8.841	-10.146	-9.835	-13.250	-11.672	-9.912		
10.0		-26.000	-35.600	-38.706	-38.900	-38.778	-38.842			10.0		-6.773	-8.489	-8.470	-9.776	-8.463	-8.068		
25.0		-18.333	-30.000	-36.765	-37.250	-36.944	-37.105			25.0		-3.508	-4.268	-4.399	-3.257	-2.351	-2.534		
50.0		-8.636	-22.143	-28.125	-30.000	-31.667	-33.125			50.0		-0.026	0.802	2.813	4.943	6.063	7.500		
75.0		-2.500	-11.667	-18.750	-22.143	-25.909	-25.714			75.0		5.516	8.209	11.506	14.492	17.260	18.606		
90.0		4.500	-3.000	-10.500	-14.000	-20.400	-16.000			90.0		9.967	14.946	18.425	23.031	26.763	28.464		
95.0		7.250	-0.250	-1.000	-10.333	-8.000	-12.000			95.0		14.172	21.469	23.063	28.063	30.614	33.339		
99.0		9.450	8.900	3.900	2.800	-2.200	-7.200			99.0		26.588	30.450	35.450	37.270	36.588	38.483		
NO. OF										NO. OF									
OBS.		44.	44.	44.	44.	44.	44.			OBS.		273.	273.	273.	273.	273.	273.		

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO		20 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		30 TO		40 (M/SEC)	
ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)		ALTITUDE		11 TO 15 (KM)		INITIAL DIRECTION		270 TO		315 (DEG)	
				WIND SPEED CHANGE VALUES (M/SEC)										WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT		ELAPSED TIME IN HOURS								PERCENT		ELAPSED TIME IN HOURS							
LEVELS		12	24	36	48	60	72			LEVELS		12	24	36	48	60	72		
1.0		-8.610	-9.837	-9.675	-9.228	-9.721	-6.525			1.0		-14.844	-18.500	-20.833	-19.808	-23.125	-24.792		
5.0		-4.793	-7.521	-5.042	-6.139	-5.750	-3.697			5.0		-11.719	-11.750	-13.958	-15.962	-18.026	-20.825		
10.0		-4.053	-4.833	-3.673	-3.775	-2.050	-1.868			10.0		-9.125	-8.929	-9.595	-12.619	-14.750	-14.464		
25.0		-1.835	-0.972	0.398	1.597	4.653	5.134			25.0		-4.669	-4.575	-4.593	-5.093	-7.197	-8.264		
50.0		1.989	4.609	7.197	9.327	9.926	11.250			50.0		-0.074	1.707	3.485	3.125	2.069	-0.		
75.0		6.331	9.358	12.708	15.347	17.650	18.063			75.0		5.956	8.413	10.056	12.583	11.146	9.085		
90.0		9.694	14.472	17.731	21.864	23.792	24.094			90.0		12.778	15.769	18.750	20.417	19.318	19.231		
95.0		13.156	19.208	21.050	25.050	30.063	30.250			95.0		18.214	21.250	24.722	26.250	24.750	24.038		
99.0		19.350	24.610	33.050	36.525	37.683	38.842			99.0		29.167	35.833	36.875	36.875	35.833	33.750		
NO. OF										NO. OF									
OBS.		139.	139.	139.	139.	139.	139.			OBS.		250.	250.	250.	250.	250.	250.		

TABLE XII c (Cont'd)

FOR MONTH OF DECEMBER				INITIAL WIND SPEED 40 TO 50 (M/SEC)				INITIAL WIND SPEED 60 TO 70 (M/SEC)						
ALTIITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-22.203	-27.203	-27.203	-29.212	-29.370	-28.370		1.0	-28.600	-33.600	-39.533	-39.720	-39.650	-39.720
5.0	-14.712	-21.781	-21.781	-22.750	-23.806	-23.250		5.0	-23.000	-28.000	-37.667	-38.600	-38.250	-38.600
10.0	-12.675	-16.687	-17.591	-17.650	-19.458	-19.395		10.0	-16.000	-23.887	-35.333	-37.200	-36.500	-37.200
25.0	-8.142	-9.635	-10.924	-9.427	-10.703	-12.961		25.0	-13.182	-17.500	-22.500	-30.000	-30.000	-30.000
50.0	-2.569	-2.431	-2.812	-2.045	-3.306	-5.391		50.0	-10.000	-11.429	-15.000	-17.000	-16.667	-20.000
75.0	3.973	5.060	5.560	7.102	5.368	5.069		75.0	-0.	-5.000	-5.000	-3.750	-6.667	-15.000
90.0	10.900	12.313	9.776	13.900	14.350	12.792		90.0	10.500	5.500	6.000	5.500	-1.000	-4.500
95.0	13.617	17.139	14.893	16.464	18.806	16.583		95.0	14.000	9.000	16.500	9.000	3.000	-1.000
99.0	18.950	23.425	23.950	35.925	28.950	26.850		99.0	18.600	13.600	19.300	13.600	6.600	3.600
NO. OF								NO. OF						
OBS.	163.	163.	163.	163.	163.	163.		OBS.	28.	28.	28.	28.	28.	28.

FOR MONTH OF DECEMBER				INITIAL WIND SPEED 50 TO 60 (M/SEC)				INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTIITUDE 11 TO 15 (KM)				INITIAL DIRECTION 270 TO 315 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)						
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-20.300	-30.300	-33.433	-35.300	-39.060	-39.217		1.0	-13.650	-13.650	-9.662	-13.650	-13.650	-13.650
5.0	-15.375	-22.750	-27.167	-29.056	-35.300	-36.083		5.0	-9.708	-9.562	-8.312	-9.417	-8.250	-9.417
10.0	-12.800	-19.222	-23.111	-26.444	-30.600	-31.600		10.0	-8.583	-7.875	-6.625	-7.167	-4.417	-7.167
25.0	-8.672	-13.289	-13.654	-20.208	-23.250	-25.536		25.0	-5.208	-4.028	-3.036	-2.708	-1.042	-2.250
50.0	-5.000	-6.562	-6.316	-9.667	-12.692	-14.231		50.0	-1.389	-0.278	2.083	2.188	3.929	4.500
75.0	2.708	0.625	0.357	-1.346	-3.542	-3.611		75.0	3.542	8.036	10.417	7.813	11.250	10.625
90.0	8.909	9.417	7.714	4.077	3.500	6.143		90.0	7.875	13.250	18.250	31.500	26.500	30.750
95.0	12.875	13.300	9.393	6.917	7.300	9.500		95.0	9.562	16.625	23.250	36.625	36.625	34.125
99.0	18.433	35.300	35.300	25.300	17.650	17.650		99.0	13.650	19.325	28.650	39.325	39.325	38.650
NO. OF								NO. OF						
OBS.	94.	94.	94.	94.	94.	94.		OBS.	27.	27.	27.	27.	27.	27.

TABLE XII c (Cont'd)

FOR MONTH OF				DECEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 30 TO 40 (M/SEC)							
ALTITUDE 11 TO 15 (KM)				11 TO 15 (KM)				INITIAL DIRECTION 315 TO 360 (DEG)				INITIAL DIRECTION 315 TO 360 (DEG)							
WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)							
PERCENT				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS							
LEVELS				12	24	36	48	60	72	LEVELS				12	24	36	48	60	72
1.0				-13.350	-13.350	-13.350	-14.587	-19.175	-19.175	1.0				-14.600	-14.200	-14.800	-19.200	-19.800	-24.600
5.0				-9.705	-9.819	-9.729	-12.937	-15.875	-15.875	5.0				-13.000	-11.000	-14.000	-16.000	-19.000	-23.000
10.0				-8.955	-9.361	-9.042	-10.875	-13.700	-13.700	10.0				-11.000	-9.500	-13.000	-14.250	-18.000	-21.000
25.0				-6.705	-7.986	-6.979	-7.639	-9.375	-9.375	25.0				-7.500	-7.500	-10.000	-11.250	-15.000	-12.500
50.0				-2.750	-5.694	-3.409	-3.056	-5.250	-5.250	50.0				-1.667	-3.750	-5.000	-6.250	-6.667	-5.000
75.0				3.438	-1.406	0.469	2.292	6.458	16.250	75.0				10.000	2.500	3.333	23.000	10.000	10.000
90.0				8.083	3.375	3.563	7.125	21.167	26.750	90.0				13.000	8.500	6.500	26.000	27.000	37.333
95.0				9.458	6.750	4.594	9.188	23.917	31.750	95.0				14.000	11.000	26.000	28.000	36.000	38.667
99.0				13.350	13.350	33.350	38.350	38.350	38.350	99.0				14.800	14.200	29.200	29.600	39.200	39.733
NO. OF				33.	33.	33.	33.	33.	33.	NO. OF				16.	16.	16.	16.	16.	16.
OBS.				33.	33.	33.	33.	33.	33.	OBS.				16.	16.	16.	16.	16.	16.

TABLE XII d

December, 16 to 20 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTITUDE 16 TO 20 (KM)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 0 TO 45 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)						
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.350	-4.907	-9.350	-9.350	-9.350	-9.350	-4.783	1.0	-8.775	-7.550	-4.837	-7.550	-4.856	-4.856	-4.871
5.0	-6.750	-4.536	-6.750	-6.750	-6.750	-6.750	-3.917	5.0	-4.868	-4.482	-4.183	-4.517	-4.279	-4.279	-4.355
10.0	-4.700	-4.071	-4.625	-4.700	-4.625	-4.625	-2.833	10.0	-4.147	-3.607	-3.367	-3.700	-3.559	-3.559	-3.711
25.0	-2.750	-2.679	-2.187	-2.750	-2.187	-2.187	0.313	25.0	-1.985	-0.982	-0.917	-1.250	-1.397	-1.397	-1.776
50.0	0.417	-0.357	1.500	0.625	1.500	4.375	0.438	50.0	1.375	3.393	5.469	2.833	3.409	2.500	2.500
75.0	3.125	2.750	4.750	4.687	4.750	6.438	13.500	75.0	4.438	7.768	9.297	8.594	8.646	8.375	8.375
90.0	4.750	4.700	7.633	9.250	7.633	13.500	16.750	90.0	9.250	11.833	14.250	15.167	12.929	14.100	14.100
95.0	6.750	6.750	8.917	11.750	8.917	16.750	19.350	95.0	13.875	15.917	21.375	19.250	14.679	18.875	18.875
99.0	9.350	9.350	9.783	14.350	9.783	19.350		99.0	27.550	19.183	27.550	37.550	32.550	32.550	32.550
NO. OF								NO. OF							
OBS.	13.	13.	13.	13.	13.	13.	13.	OBS.	49.	49.	49.	49.	49.	49.	49.

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)			INITIAL WIND SPEED 10 TO 20 (M/SEC)						
ALTITUDE 16 TO 20 (KM)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 135 TO 180 (DEG)			INITIAL DIRECTION 180 TO 225 (DEG)						
PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS						
PERCENT	LEVELS	12	24	36	48	60	72	PERCENT	LEVELS	12	24	36	48	60	72
1.0	-9.350	-9.350	-4.907	-9.350	-9.675	-9.350	-9.675	1.0	-9.833	-9.780	-9.780	-17.800	-12.800	-9.800	-9.780
5.0	-6.750	-6.750	-4.536	-6.750	-6.375	-6.750	-8.375	5.0	-8.167	-8.900	-8.900	-9.400	-8.000	-9.000	-8.900
10.0	-4.786	-4.700	-4.071	-6.750	-4.071	-4.050	-6.750	10.0	-6.333	-7.800	-8.300	-8.300	-4.913	-8.000	-7.800
25.0	-3.393	-2.750	-2.679	-4.107	-2.679	-3.875	-4.107	25.0	-3.214	-4.615	-5.000	-3.478	-5.000	-4.643	-4.643
50.0	-1.071	0.833	-0.357	-1.786	-0.357	-2.250	-1.786	50.0	0.625	-0.385	-1.944	-1.087	-1.765	-0.714	-0.714
75.0	2.917	5.938	6.250	1.875	6.250	-0.625	3.750	75.0	4.063	3.846	2.857	3.000	2.273	3.750	3.750
90.0	6.750	6.375	9.500	6.750	6.500	6.500	9.250	90.0	7.571	7.250	7.250	5.714	5.750	7.571	7.571
95.0	8.375	9.187	11.750	8.375	11.750	11.750	11.750	95.0	9.143	8.625	8.625	12.250	8.500	9.143	9.143
99.0	9.875	9.837	14.350	9.675	14.350	14.350		99.0	12.800	9.725	9.725	14.450	12.800	17.800	17.800
NO. OF								NO. OF							
OBS.	13.	13.	13.	13.	13.	13.	13.	OBS.	44.	44.	44.	44.	44.	44.	44.

TABLE XII d (Cont'd)

FOR MONTH OF			DECEMBER			FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			20 TO			30 (M/SEC)		
ALTITUDE 16 TO 20 (KM)			INITIAL WIND SPEED			0 TO 10 (M/SEC)			INITIAL WIND SPEED			225 TO 270 (DEG)			225 TO 270 (DEG)			225 TO 270 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
LEVELS			24			36			48			60			72			84		
1.0			-6.350	-4.934	-8.540	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567	-7.567
5.0			-4.424	-4.100	-4.726	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386	-4.386
10.0			-3.630	-3.057	-3.857	-3.343	-3.294	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242	-3.242
25.0			-1.250	0.037	-1.250	-0.214	-0.074	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
50.0			2.119	2.761	2.889	4.167	4.091	4.744	4.744	4.744	4.744	4.744	4.744	4.744	4.744	4.744	4.744	4.744	4.744	4.744
75.0			5.446	6.204	7.823	9.214	10.109	10.633	10.633	10.633	10.633	10.633	10.633	10.633	10.633	10.633	10.633	10.633	10.633	10.633
90.0			9.357	11.000	12.800	14.824	14.870	17.200	17.200	17.200	17.200	17.200	17.200	17.200	17.200	17.200	17.200	17.200	17.200	17.200
95.0			13.083	16.417	15.583	18.722	20.875	21.700	21.700	21.700	21.700	21.700	21.700	21.700	21.700	21.700	21.700	21.700	21.700	21.700
99.0			23.850	23.850	21.350	27.567	31.350	29.233	29.233	29.233	29.233	29.233	29.233	29.233	29.233	29.233	29.233	29.233	29.233	29.233
NO. OF			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
			146.			146.			146.			146.			146.			146.		
			467.			467.			467.			467.			467.			467.		

TABLE XII d (Cont'd)

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 40 TO 50 (M/SEC)			FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 0 TO 10 (M/SEC)					
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)					
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-23.675	-32.350	-32.350	-32.350	-32.350	-32.350	1.0	-8.643	-8.417	-8.633	-8.417	-8.643	-8.417	-8.643	-8.417	-8.633	-8.417	-8.643	-8.417	-8.643
5.0	-19.458	-23.917	-27.250	-28.350	-28.350	-28.350	5.0	-4.793	-4.776	-4.589	-4.776	-4.793	-4.776	-4.793	-4.776	-4.589	-4.776	-4.793	-4.776	-4.793
10.0	-17.250	-19.833	-23.375	-25.700	-25.700	-25.700	10.0	-4.016	-4.167	-3.987	-4.167	-4.016	-4.167	-3.987	-4.167	-3.987	-4.167	-3.987	-4.167	-3.987
25.0	-11.719	-15.417	-17.083	-19.219	-19.479	-20.972	25.0	-1.680	-2.340	-2.184	-2.340	-1.680	-2.184	-1.653	-1.029	-0.990				
50.0	-3.409	-5.417	-11.346	-12.500	-13.750	-15.577	50.0	1.452	0.833	1.226	2.213	3.304	3.455							
75.0	4.107	-0.096	-5.125	-5.179	-6.806	-8.906	75.0	4.003	4.432	6.103	6.875	8.563	9.236							
90.0	9.188	12.833	7.125	-0.187	-1.083	-2.875	90.0	7.083	9.038	10.909	12.500	13.864	15.862							
95.0	13.375	16.688	11.750	13.375	6.750	6.750	95.0	9.083	12.045	15.278	16.591	17.813	18.676							
99.0	18.875	19.337	18.875	22.350	22.350	17.350	99.0	18.100	17.750	19.500	20.250	24.100	27.750							
NO. OF							NO. OF													
OBS.	53.	53.	53.	53.	53.	53.	OBS.	190.	190.	190.	190.	190.	190.							

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 50 TO 60 (M/SEC)			FOR MONTH OF			DECEMBER			INITIAL WIND SPEED 10 TO 20 (M/SEC)					
ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 225 TO 270 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)			ALTITUDE 16 TO 20 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT			ELAPSED TIME IN HOURS			PERCENT			WIND SPEED CHANGE VALUES (M/SEC)			ELAPSED TIME IN HOURS			WIND SPEED CHANGE VALUES (M/SEC)					
LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72	LEVELS	12	24	36	48	60	72
1.0	-24.500	-39.500	-39.750	-39.500	-39.500	-29.875	1.0	-10.483	-12.290	-13.768	-13.675	-14.097	-14.550	1.0	-10.483	-12.290	-13.768	-13.675	-14.097	-14.550
5.0	-22.500	-37.500	-38.750	-37.500	-37.500	-29.375	5.0	-8.574	-8.836	-9.480	-9.645	-9.832	-10.645	5.0	-8.574	-8.836	-9.480	-9.645	-9.832	-10.645
10.0	-20.000	-35.000	-37.500	-35.000	-30.000	-28.750	10.0	-6.755	-6.820	-8.008	-8.195	-8.612	-8.866	10.0	-6.755	-6.820	-8.008	-8.195	-8.612	-8.866
25.0	-14.375	-29.167	-32.500	-31.250	-26.250	-26.875	25.0	-3.870	-3.585	-4.235	-4.336	-4.962	-4.957	25.0	-3.870	-3.585	-4.235	-4.336	-4.962	-4.957
50.0	-11.250	-25.000	-22.500	-25.000	-21.667	-23.333	50.0	-1.093	-0.365	-0.237	-0.158	-0.230	0.393	50.0	-1.093	-0.365	-0.237	-0.158	-0.230	0.393
75.0	-2.500	-7.500	-12.500	-15.250	-16.250	-19.167	75.0	3.057	4.782	5.865	6.886	7.254	7.568	75.0	3.057	4.782	5.865	6.886	7.254	7.568
90.0	5.000	10.000	5.000	6.000	-12.500	-16.667	90.0	7.314	9.325	10.297	12.423	13.365	13.440	90.0	7.314	9.325	10.297	12.423	13.365	13.440
95.0	7.500	12.500	7.500	2.500	-11.250	-15.833	95.0	9.471	12.177	13.195	14.801	17.150	16.946	95.0	9.471	12.177	13.195	14.801	17.150	16.946
99.0	9.500	14.500	9.500	4.500	-10.250	-15.167	99.0	13.675	16.613	18.290	21.908	26.613	27.150	99.0	13.675	16.613	18.290	21.908	26.613	27.150
NO. OF							NO. OF							NO. OF						
OBS.	10.	10.	10.	10.	10.	10.	OBS.	371.	371.	371.	371.	371.	371.	OBS.	371.	371.	371.	371.	371.	371.



TABLE XII d (Cont'd)

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FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		20 TO 30 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		40 TO 50 (M/SEC)	
ALTITUDE 16 TO 20 (KM)		16 TO 20 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		ALTITUDE 16 TO 20 (KM)		16 TO 20 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		PERCENT		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72	
1.0 -19.206		-17.883		-16.217		-19.512		-19.546		-19.921		1.0 -14.817		-19.450	
5.0 -13.932		-13.815		-13.608		-16.019		-16.304		-17.250		5.0 -14.083		-23.625	
10.0 -9.700		-11.984		-11.717		-13.597		-14.037		-14.513		10.0 -13.167		-24.500	
25.0 -5.917		-7.281		-7.672		-8.825		-9.797		-10.033		25.0 -10.417		-14.062	
50.0 -2.006		-1.895		-1.990		-2.744		-2.905		-3.879		50.0 -4.500		-10.625	
75.0 2.332		3.614		3.514		4.077		4.006		3.983		75.0 -1.750		-4.583	
90.0 6.575		8.435		8.813		9.696		9.685		10.433		90.0 -0.100		-1.833	
95.0 9.413		11.179		12.354		14.021		14.825		14.217		95.0 2.250		-0.917	
99.0 16.825		18.730		19.550		19.807		19.365		19.807		99.0 4.450		-0.137	
NO. OF		227.		227.		227.		227.		227.		NO. OF		11.	
OBS.		227.		227.		227.		227.		227.		OBS.		11.	

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		30 TO 40 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE 16 TO 20 (KM)		16 TO 20 (KM)		INITIAL DIRECTION 270 TO 315 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)		ALTITUDE 16 TO 20 (KM)		16 TO 20 (KM)		INITIAL DIRECTION 315 TO 360 (DEG)		WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		PERCENT		ELAPSED TIME IN HOURS		WIND SPEED CHANGE VALUES (M/SEC)		PERCENT		ELAPSED TIME IN HOURS	
LEVELS 12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		LEVELS 12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72		12 24 36 48 60 72	
1.0 -14.383		-21.300		-23.767		-26.300		-28.150		-28.150		1.0 -7.950		-4.814	
5.0 -11.917		-17.750		-19.562		-22.750		-23.786		-23.300		5.0 -4.672		-4.068	
10.0 -9.708		-14.750		-17.250		-19.600		-21.143		-19.778		10.0 -4.031		-3.136	
25.0 -7.396		-8.833		-11.250		-11.750		-13.437		-13.864		25.0 -2.109		-0.341	
50.0 -3.409		-3.333		-5.294		-5.312		-5.667		-5.000		50.0 1.094		2.375	
75.0 1.458		2.045		0.633		-0.833		-0.417		-0.795		75.0 4.297		4.938	
90.0 6.857		7.556		7.571		4.222		4.800		7.167		90.0 8.900		8.278	
95.0 9.500		9.611		10.375		8.833		10.750		10.750		95.0 12.375		9.417	
99.0 18.150		13.767		14.075		16.300		26.300		18.150		99.0 17.950		27.950	
NO. OF		74.		74.		74.		74.		74.		NO. OF		41.	
OBS.		74.		74.		74.		74.		74.		OBS.		41.	

TABLE XII d (Cont'd)

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO	20 (M/SEC)
ALTITUDE		16 TO	20 (KM)	INITIAL DIRECTION		315 TO	360 (DEG)
		WIND SPEED CHANGE VALUES (M/SEC)					
PERCENT	ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72	
1.0	-9.692	-14.537	-9.769	-13.150	-13.150	-14.075	
5.0	-8.456	-12.687	-8.844	-9.393	-9.150	-10.375	
10.0	-6.917	-10.375	-7.687	-8.071	-7.300	-7.875	
25.0	-4.044	-4.904	-4.554	-4.479	-3.984	-3.839	
50.0	-1.324	-1.346	-1.250	-0.625	-1.094	-0.536	
75.0	1.979	2.396	2.212	2.768	3.194	3.875	
90.0	4.292	4.708	4.346	4.750	6.917	8.300	
95.0	5.750	6.917	5.375	7.875	8.456	10.750	
99.0	13.150	9.383	9.075	18.150	9.692	16.150	
NO. OF							
OBS.	37.	37.	37.	37.	37.	37.	37.

TABLE XII e

December, 21 to 25 Kilometer Layer Wind Speed Changes Over Various Time Intervals as a Function of Initial Wind Speed and Direction, Computed from Eight Years of Serially Completed Rawinsonde Wind Profile Data

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		10 TO 20 (M/SEC)	
ALTITUDE 21 TO 25 (KM)		21 TO 25 (KM)		INITIAL DIRECTION		0 TO 45 (DEG)		ALTITUDE 21 TO 25 (KM)		21 TO 25 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72			LEVELS	12	24	36	48	60	72	
1.0	-4.858	-4.031	-4.007	-4.614	-4.460	-4.700		1.0	-9.700	-9.800	-9.800	-9.400	-9.900	-9.850	
5.0	-4.289	-4.156	-4.036	-3.071	-2.300	-3.500		5.0	-8.500	-9.000	-9.000	-7.000	-9.500	-9.250	
10.0	-3.579	-3.312	-3.071	-1.143	0.077	-2.000		10.0	-7.000	-8.000	-8.000	-4.833	-9.000	-8.500	
25.0	-1.447	-0.781	-0.179	1.354	1.635	1.500		25.0	-4.000	-5.000	-5.000	-3.333	-7.500	-6.250	
50.0	2.000	2.750	3.421	4.167	4.231	6.250		50.0	-1.000	-2.500	-2.657	-0.833	-5.000	-3.333	
75.0	5.938	7.250	7.344	9.958	8.167	12.045		75.0	5.000	0.	-0.714	2.500	-1.250	-0.833	
90.0	11.333	11.857	9.875	14.000	12.600	16.333		90.0	9.500	4.500	4.000	4.750	4.000	2.000	
95.0	13.583	13.786	15.750	16.625	15.500	18.583		95.0	17.000	7.000	7.000	12.000	7.000	3.500	
99.0	17.300	27.300	22.300	19.325	19.100	22.300		99.0	19.400	9.400	9.400	14.400	9.400	4.700	
NO. OF								NO. OF							
OBS.	54.	54.	54.	54.	54.	54.		OBS.	12.	12.	12.	12.	12.	12.	

FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)		FOR MONTH OF		DECEMBER		INITIAL WIND SPEED		0 TO 10 (M/SEC)	
ALTITUDE 21 TO 25 (KM)		21 TO 25 (KM)		INITIAL DIRECTION		45 TO 90 (DEG)		ALTITUDE 21 TO 25 (KM)		21 TO 25 (KM)		INITIAL DIRECTION		90 TO 135 (DEG)	
						WIND SPEED CHANGE VALUES (M/SEC)								WIND SPEED CHANGE VALUES (M/SEC)	
PERCENT		ELAPSED TIME IN HOURS						PERCENT		ELAPSED TIME IN HOURS					
LEVELS	12	24	36	48	72			LEVELS	12	24	36	48	60	72	
1.0	-8.325	-9.162	-8.883	-9.330	-9.162	-9.442		1.0	-8.450	-8.450	-8.450	-9.225	-8.450	-9.483	
5.0	-4.775	-5.812	-4.949	-6.650	-5.812	-7.208		5.0	-4.828	-4.771	-4.828	-6.125	-4.817	-7.417	
10.0	-4.217	-4.614	-4.456	-4.734	-4.413	-4.854		10.0	-4.344	-4.125	-4.344	-4.633	-4.300	-4.962	
25.0	-2.542	-3.179	-2.978	-3.164	-2.228	-2.760		25.0	-2.891	-2.187	-2.891	-3.083	-2.750	-3.173	
50.0	0.259	-0.786	-0.515	-0.547	1.300	0.833		50.0	-0.469	0.962	-0.469	-0.500	-0.167	-0.192	
75.0	3.147	2.961	3.313	3.313	4.650	4.821		75.0	3.906	3.942	3.472	3.472	4.028	4.531	
90.0	4.879	6.438	7.063	7.063	8.458	10.300		90.0	7.900	8.167	7.375	6.900	7.900	13.167	
95.0	7.650	8.531	9.156	9.156	9.854	13.650		95.0	9.450	12.250	9.313	8.450	9.450	16.125	
99.0	11.650	11.650	16.650	21.650	16.650	18.325		99.0	18.450	18.450	18.450	9.690	13.450	19.225	
NO. OF								NO. OF							
OBS.	67.	67.	67.	67.	67.	67.		OBS.	31.	31.	31.	31.	31.	31.	



TABLE XII e (Cont'd)

FOR MONTH OF DECEMBER				INITIAL WIND SPEED 10 TO 20 (M/SEC)				INITIAL WIND SPEED 30 TO 40 (M/SEC)						
ALTIMITUDE 21 TO 25 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 225 TO 270 (DEG)						
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-12.811	-13.084	-13.943	-14.656	-14.099	-14.877		1.0	-24.250	-24.500	-28.500	-29.250	-34.250	-33.500
5.0	-9.065	-9.374	-9.939	-10.702	-10.493	-12.212		5.0	-21.250	-22.500	-24.583	-26.250	-31.250	-29.167
10.0	-7.343	-8.064	-8.804	-9.054	-9.136	-9.672		10.0	-18.750	-20.000	-23.333	-24.167	-27.500	-26.667
25.0	-4.041	-4.542	-5.398	-5.746	-6.226	-6.744		25.0	-13.750	-17.187	-19.583	-20.417	-20.625	-23.056
50.0	-1.116	-1.075	-1.655	-1.720	-2.274	-2.408		50.0	-7.000	-11.000	-13.889	-16.111	-15.625	-17.500
75.0	3.056	3.549	3.183	3.350	2.776	2.757		75.0	-1.562	-5.937	-9.167	-9.214	-9.500	-10.417
90.0	7.402	8.122	8.148	6.209	8.218	8.258		90.0	3.333	-2.000	-2.500	-3.000	-5.000	-3.750
95.0	9.723	10.307	10.946	10.511	11.163	11.740		95.0	6.250	-0.500	-0.625	-1.250	-1.250	-1.875
99.0	14.969	17.419	18.261	17.419	19.294	19.928		99.0	9.250	8.500	3.500	8.500	8.500	-0.375
NO. OF								NO. OF						
OBS.	613.	613.	613.	613.	613.	613.		OBS.	30.	30.	30.	30.	30.	30.

FOR MONTH OF DECEMBER				INITIAL WIND SPEED 20 TO 30 (M/SEC)				INITIAL WIND SPEED 0 TO 10 (M/SEC)						
ALTIMITUDE 21 TO 25 (KM)				INITIAL DIRECTION 225 TO 270 (DEG)				INITIAL DIRECTION 270 TO 315 (DEG)						
PERCENT				WIND SPEED CHANGE VALUES (M/SEC)				WIND SPEED CHANGE VALUES (M/SEC)						
ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS				ELAPSED TIME IN HOURS						
LEVELS	12	24	36	48	60	72		LEVELS	12	24	36	48	60	72
1.0	-20.700	-22.850	-20.700	-24.400	-23.280	-24.486		1.0	-7.437	-8.536	-8.861	-8.861	-8.633	-9.212
5.0	-17.000	-16.714	-15.286	-19.333	-19.100	-19.857		5.0	-4.632	-4.810	-4.926	-4.918	-4.821	-6.058
10.0	-13.091	-13.931	-13.719	-15.750	-16.950	-17.810		10.0	-4.029	-4.211	-4.324	-4.248	-4.156	-4.414
25.0	-7.625	-9.659	-9.800	-11.842	-12.568	-13.409		25.0	-2.221	-2.412	-2.515	-2.239	-2.159	-2.012
50.0	-3.226	-4.767	-5.500	-6.705	-7.000	-8.375		50.0	0.794	0.685	0.639	1.278	1.463	2.008
75.0	0.484	0.370	-1.122	-1.316	-1.447	-2.241		75.0	3.809	4.195	4.492	5.246	6.006	6.577
90.0	4.645	5.286	5.818	5.444	3.524	3.368		90.0	7.100	8.115	9.211	9.577	10.000	10.769
95.0	7.286	8.357	9.727	10.222	6.200	6.714		95.0	9.150	9.795	13.594	14.531	13.942	14.712
99.0	9.743	13.600	13.925	14.044	9.640	13.600		99.0	14.938	14.964	22.375	24.917	23.900	27.375
NO. OF								NO. OF						
OBS.	172.	172.	172.	172.	172.	172.		OBS.	410.	410.	410.	410.	410.	410.

TABLE XII e (Concluded)

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			10 TO 20 (M/SEC)			FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			0 TO 10 (M/SEC)		
ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			INITIAL DIRECTION 270 TO 315 (DEG)			ALTITUDE 21 TO 25 (KM)			21 TO 25 (KM)			INITIAL DIRECTION 315 TO 360 (DEG)			INITIAL DIRECTION 315 TO 360 (DEG)		
WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)			WIND SPEED CHANGE VALUES (M/SEC)		
PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT			PERCENT		
LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS			LEVELS		
ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS			ELAPSED TIME IN HOURS		
24			24			24			24			24			24			24			24		
36			36			36			36			36			36			36			36		
48			48			48			48			48			48			48			48		
60			60			60			60			60			60			60			60		
72			72			72			72			72			72			72			72		
1.0			1.0			1.0			1.0			1.0			1.0			1.0			1.0		
-13.089			-13.560			-14.062			-14.492			-15.700			-15.700			-15.700			-15.700		
5.0			5.0			5.0			5.0			5.0			5.0			5.0			5.0		
-9.349			-9.329			-9.622			-11.625			-11.333			-11.333			-11.333			-11.333		
10.0			10.0			10.0			10.0			10.0			10.0			10.0			10.0		
-7.964			-8.197			-8.667			-9.440			-9.404			-9.404			-9.404			-9.404		
25.0			25.0			25.0			25.0			25.0			25.0			25.0			25.0		
-4.609			-4.904			-6.000			-6.369			-6.923			-6.923			-6.923			-6.923		
50.0			50.0			50.0			50.0			50.0			50.0			50.0			50.0		
-2.207			-2.166			-2.536			-2.734			-3.145			-3.145			-3.145			-3.145		
75.0			75.0			75.0			75.0			75.0			75.0			75.0			75.0		
0.515			1.268			1.127			0.758			0.741			0.741			0.741			0.741		
90.0			90.0			90.0			90.0			90.0			90.0			90.0			90.0		
4.309			4.901			4.761			4.667			5.933			5.933			5.933			5.933		
95.0			95.0			95.0			95.0			95.0			95.0			95.0			95.0		
7.294			8.591			8.136			8.368			8.800			8.800			8.800			8.800		
99.0			99.0			99.0			99.0			99.0			99.0			99.0			99.0		
14.560			14.200			15.933			14.725			14.100			14.100			14.100			14.100		
NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF			NO. OF		
OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.			OBS.		
344.			344.			344.			344.			344.			344.			344.			344.		

FOR MONTH OF			DECEMBER			INITIAL WIND SPEED			20 TO 30 (M/SEC)								
ALTITUDE 21 TO 25 (KM)			INITIAL DIRECTION 270 TO 315 (DEG)			WIND SPEED CHANGE VALUES (M/SEC)											
PERCENT			ELAPSED TIME IN HOURS														
LEVELS			24			36			48			60			72		
1.0	-21.950	-21.950	-19.390	-19.390	-19.237	-23.475	-23.983										
5.0	-14.250	-14.523	-16.950	-16.187	-19.344	-19.972											
10.0	-12.071	-13.136	-14.389	-14.344	-17.437	-18.278											
25.0	-7.768	-9.250	-9.702	-11.484	-12.981	-14.044											
50.0	-3.437	-4.265	-6.071	-7.375	-7.917	-9.375											
75.0	-0.260	0.469	0.469	-1.806	-1.042	-2.031											
90.0	4.389	6.337	6.583	8.500	9.900	8.250											
95.0	6.950	8.536	9.125	11.593	12.950	11.593											
99.0	9.390	11.950	13.475	16.950	16.950	16.950											
NO. OF																	
OBS.	61.	61.	61.	61.	61.	61.											

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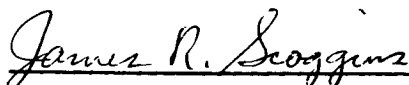
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PERCENTAGE LEVELS OF WIND SPEED DIFFERENCES COMPUTED BY USING  
RAWINSONDE WIND PROFILE DATA FROM CAPE KENNEDY, FLORIDA

By Dennis W. Camp and Michael Susko

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